

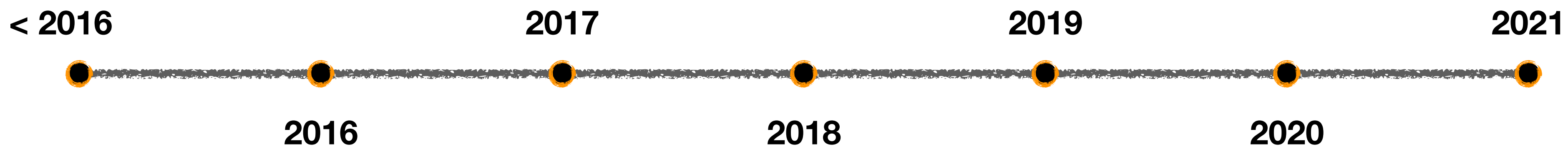
А почему бы не вынести все
конфиги в отдельный пакет,
сократив `boilerplate` до нуля



Иван
Малюгин
Билайн



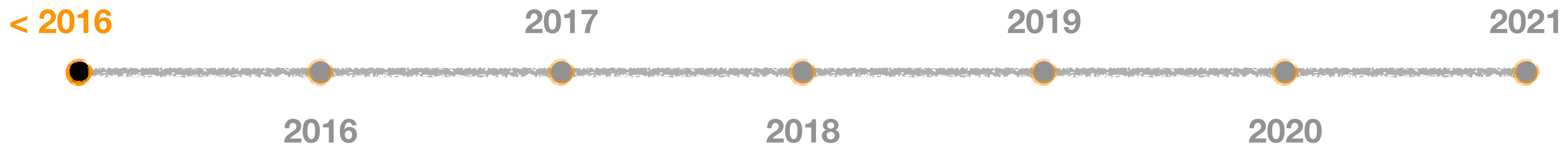
Пятилетка в 10 минут



Глава I:
Пролог

Давным-давно, в желто-черной полосатой галактике...

- jQuery-UI
- Prototypes
- ASP.NET
- Gulp
- Vender Framework



Ренессанс FE-разработки

- React 15
- Redux
- NPM
- Webpack 1



< 2016

2017

2019

2021

2016

2018

2020

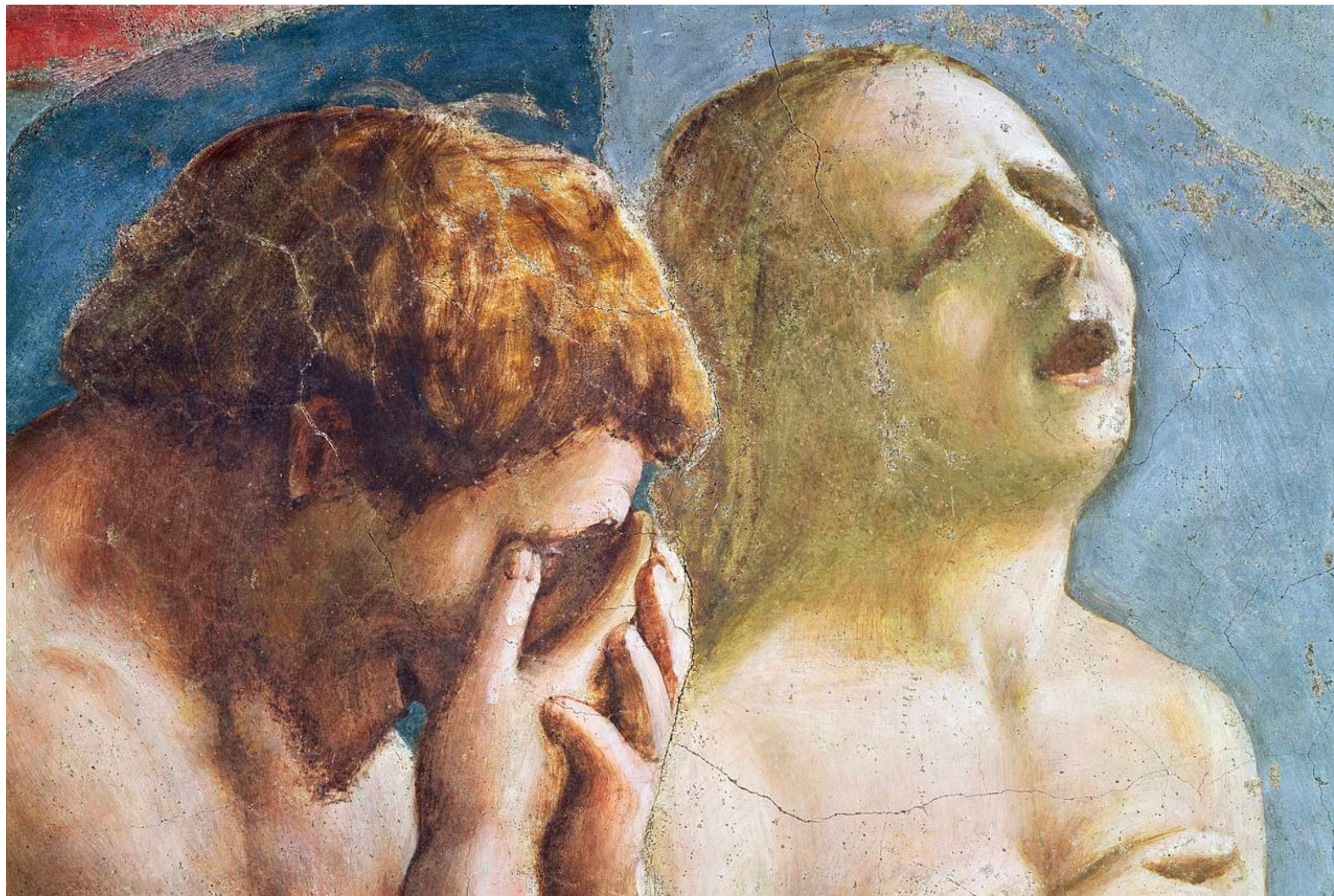
**Лирическое
от<CRA>пление**

Лирическое от <CRA> пление

Лирическое от <CRA> пленение



Лирическое от<CRA>пление

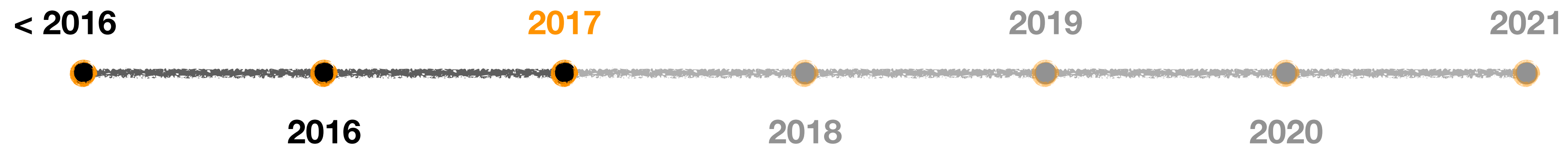


```
261 resolve: {
262   // This allows you to set a fallback for where webpack should look for modul
263   // We placed these paths second because we want `node_modules` to "win"
264   // if there are any conflicts. This matches Node resolution mechanism.
265   // https://github.com/facebook/create-react-app/issues/253
266   modules: ['node_modules', paths.appNodeModules].concat(
267     modules.additionalModulePaths || []
268   ),
269   // These are the reasonable defaults supported by the Node ecosystem.
270   // We also include JSX as a common component filename extension to support
271   // some tools, although we do not recommend using it, see:
272   // https://github.com/facebook/create-react-app/issues/290
273   // `web` extension prefixes have been added for better support
274   // for React Native Web.
275   extensions: paths.moduleFileExtensions
276     .map(ext => `.${ext}`)
277     .filter(ext => useTypeScript || !ext.includes('ts')),
278   alias: {
279     // Support React Native Web
280     // https://www.smashingmagazine.com/2016/08/a-glimpse-into-the-future-with
281     'react-native': 'react-native-web',
282     // Allows for better profiling with ReactDevTools
283     ...(isEnvProductionProfile && {
284       'react-dom$': 'react-dom/profiling',
285       'scheduler/tracing': 'scheduler/tracing-profiling',
286     }),
287     ...(modules.webpackAliases || {}),
```


Опрос

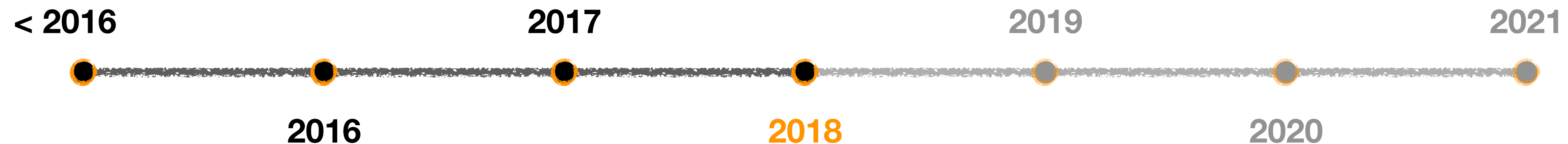
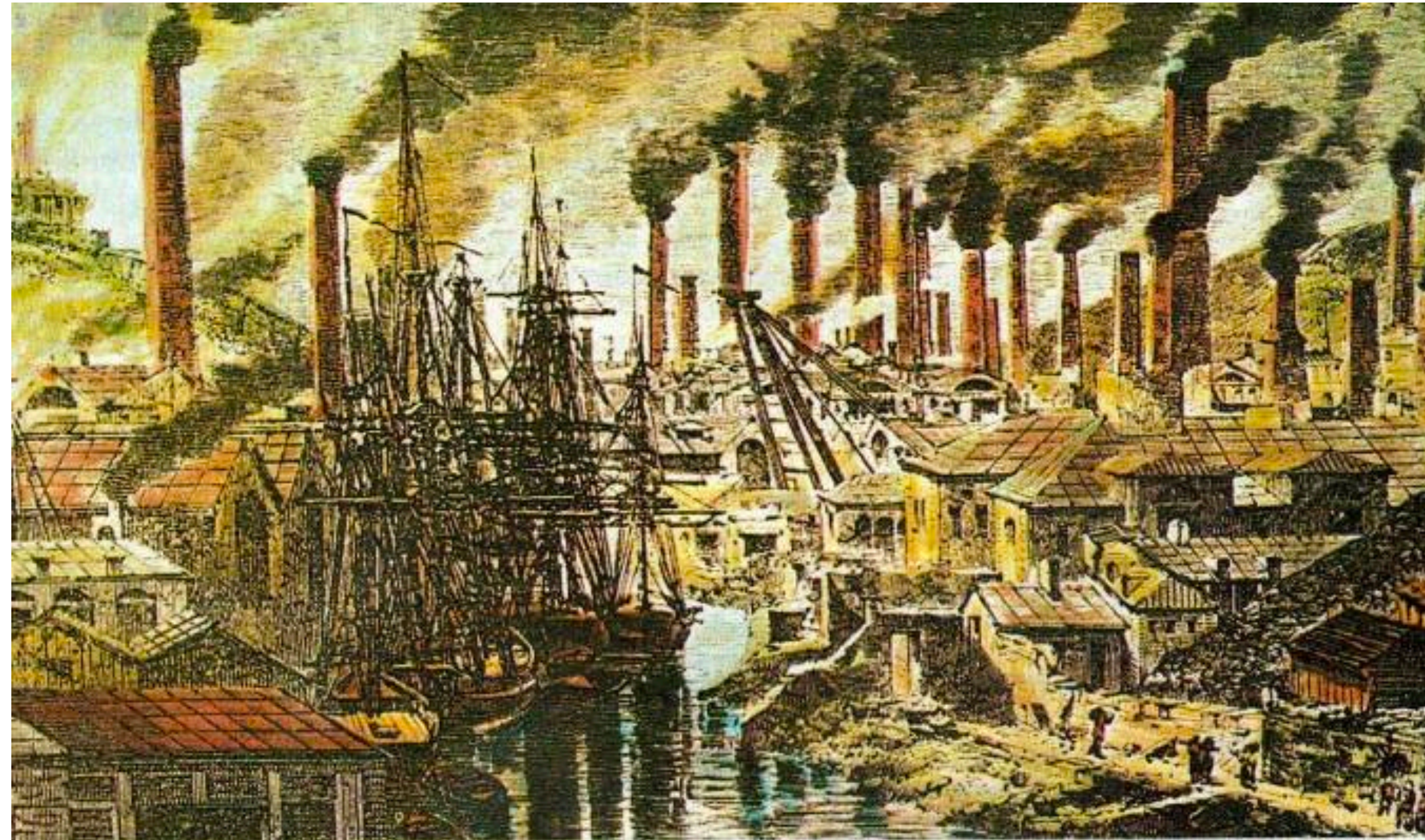
Age of Agile

- Великая перепись
- Умный сервер
- Yarn



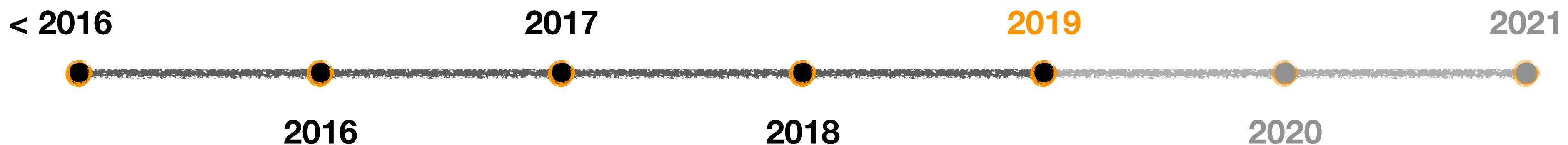
Индустральная революция

- Дизайн система
- НОС-бум
- Шэринг кода
- Аутсорс



Еще одна великая перепись

- Webpack-4
- Hook-бум
- Стандартизация



Переход в in-house



< 2016

2017

2019

2021

2016

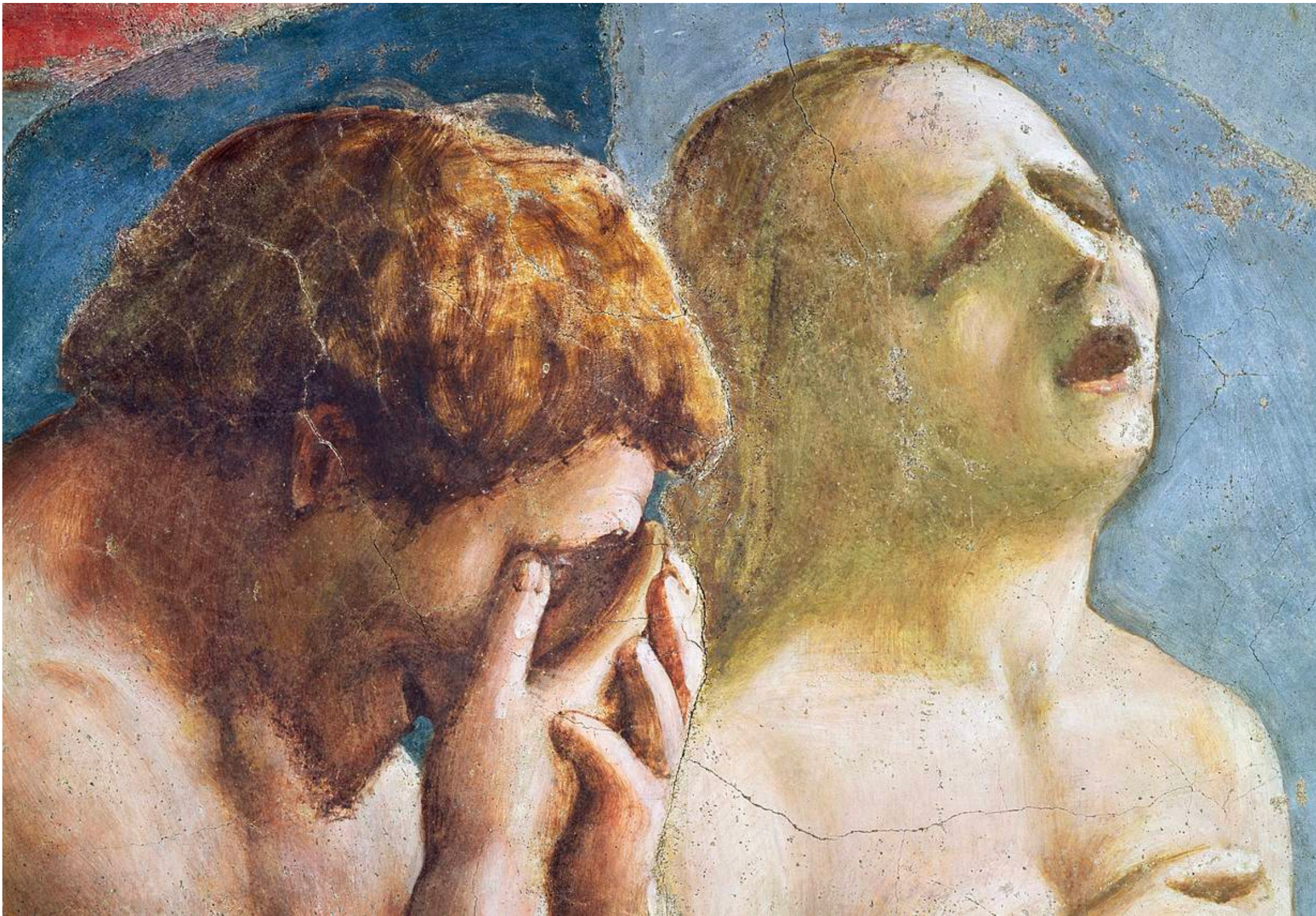
2018

2020

Mmm, CRA



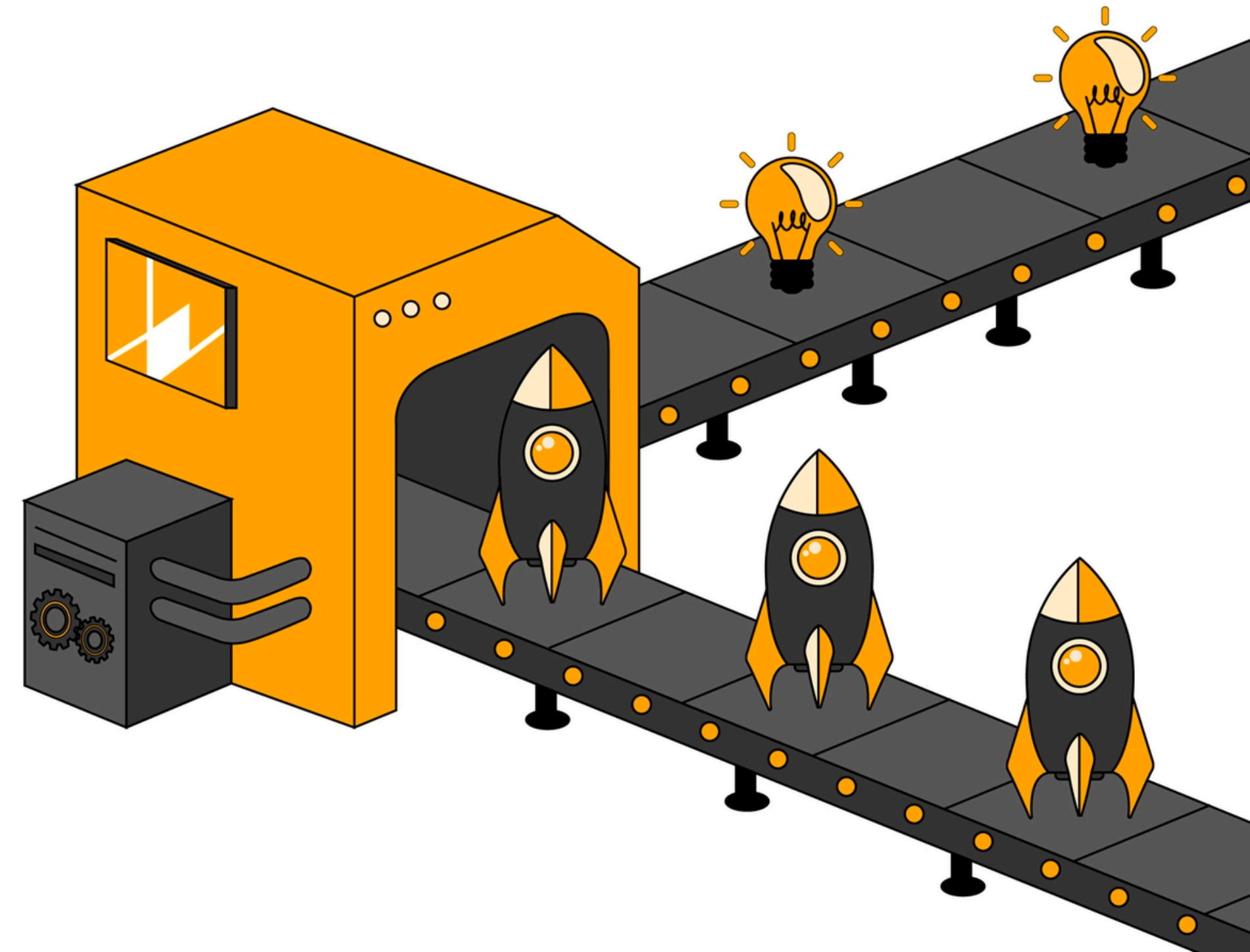
Снова ejected



<pre>entry: [// Include an alternative cli // connect to WebpackDevServer // When you save a file, the c // of CSS changes), or refres // make a syntax error, this c // Note: instead of the defaul // to bring better experience // the line below with these 1 // require.resolve('webpack-de // require.resolve('webpack/hc "@babel/polyfill", "react-app-polyfill/ie11", isEnvDevelopment && require.resolve('react-dev-u // Finally, this is your app's paths.appIndexJs, // We include the app code las // initialization, it doesn't // changing JS code would stil].filter(Boolean), output: { // The build folder. path: isEnvProduction ? paths. // Add /* filename */ comments pathinfo: isEnvDevelopment, // There will be one main bunc</pre>	<pre>125 125 126 126 127 127 128 128 129 129 130 130 131 131 132 132 133 133 134 134 135 135 136 136 137 137 138 138 139 139 140 140 141 141 142 142 143 143 144 144 145 145 146 146 147 147 148 148 149 149 150 150 151 151</pre>	<pre>// This means they will be the entry: [// Include an alternative cli // connect to WebpackDevServer // When you save a file, the c // of CSS changes), or refresh // make a syntax error, this c // Note: instead of the defaul // to bring better experience // the line below with these t // require.resolve('webpack-de // require.resolve('webpack/ho "react-app-polyfill/ie11", 'core-js/stable/promise', "@babel/polyfill", isEnvDevelopment && require.resolve('react-dev-u // Finally, this is your app's paths.appIndexJs, // We include the app code las // initialization, it doesn't // changing JS code would stil].filter(Boolean), output: { // The build folder. path: isEnvProduction ? paths. // Add /* filename */ comments</pre>
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Фабрика стартапов

- Лендинги
- MVP



< 2016

2017

2019

2021

2016

2018

2020

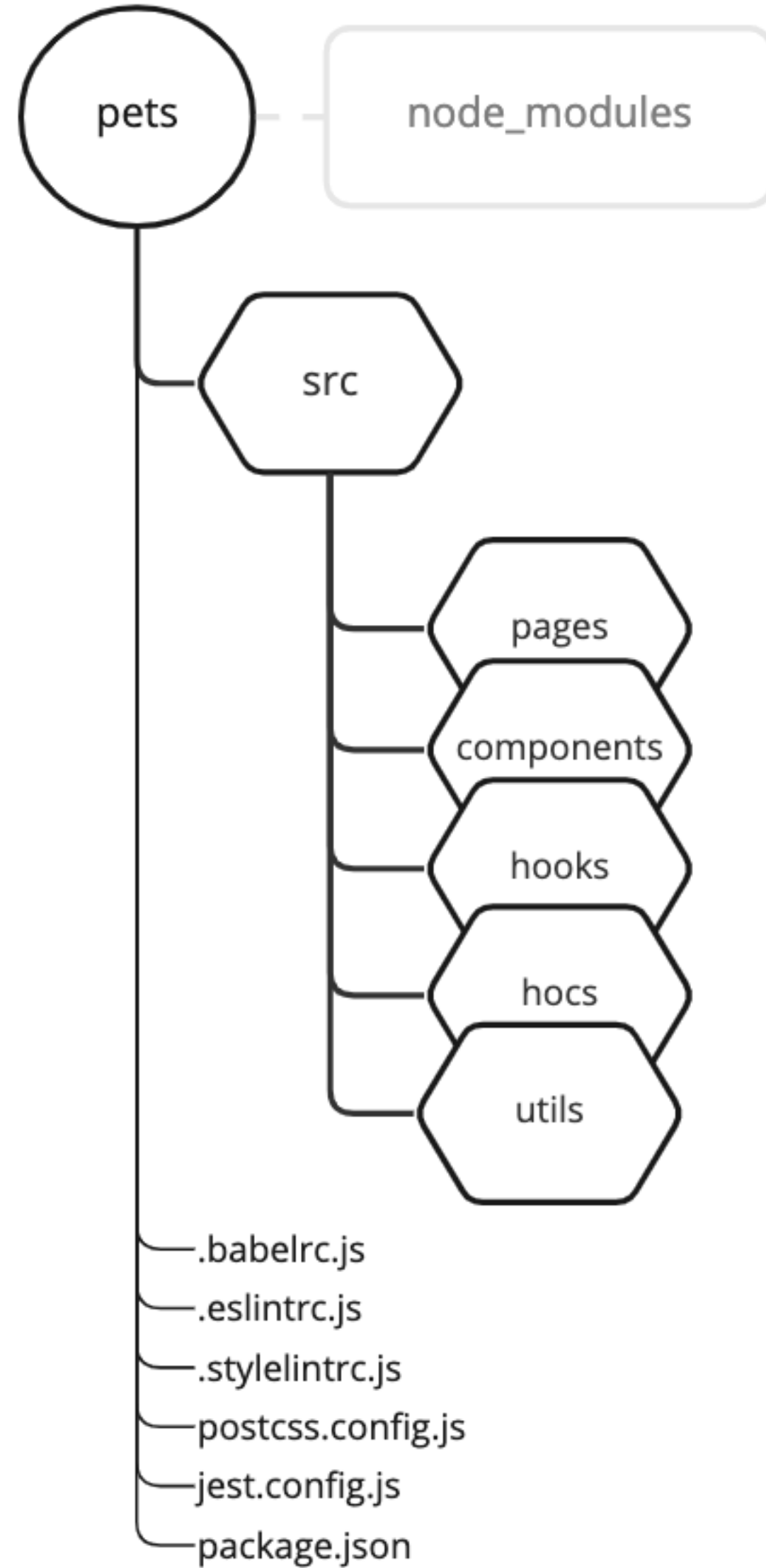


Lerna

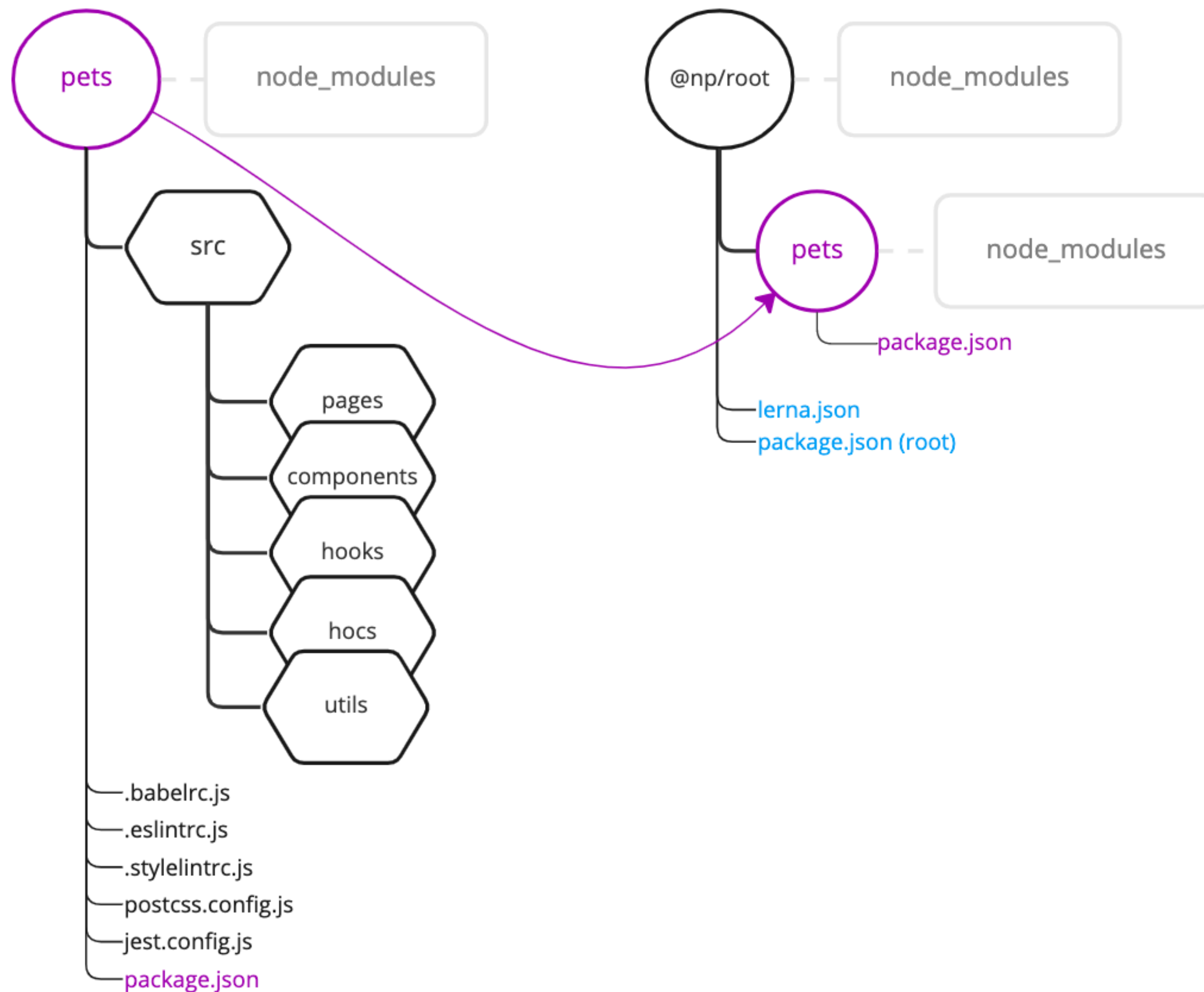
Глава II: Погружение



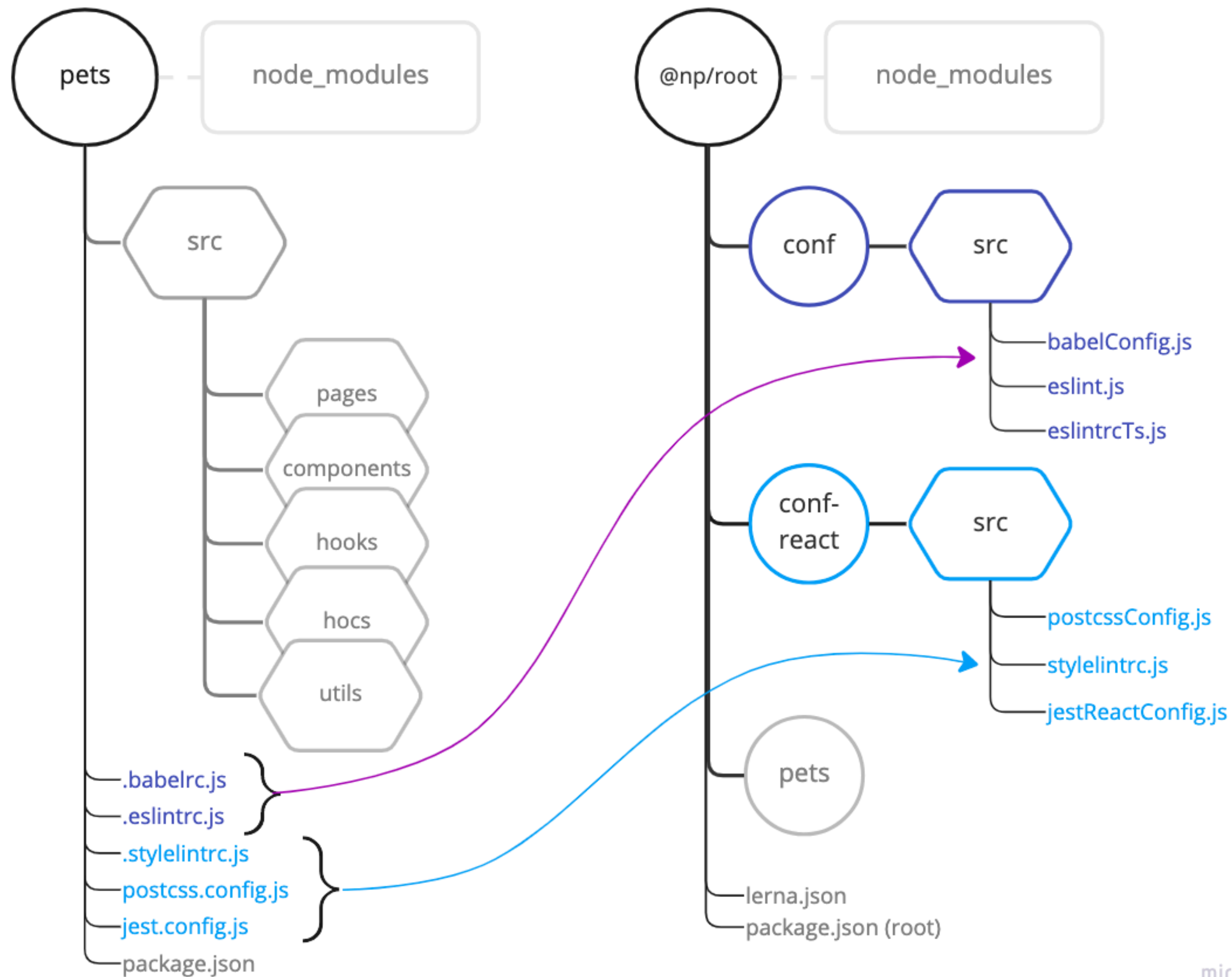
Обычный проект



Монорепозитивание



Монорепозитивание



Манифест конфигураторов

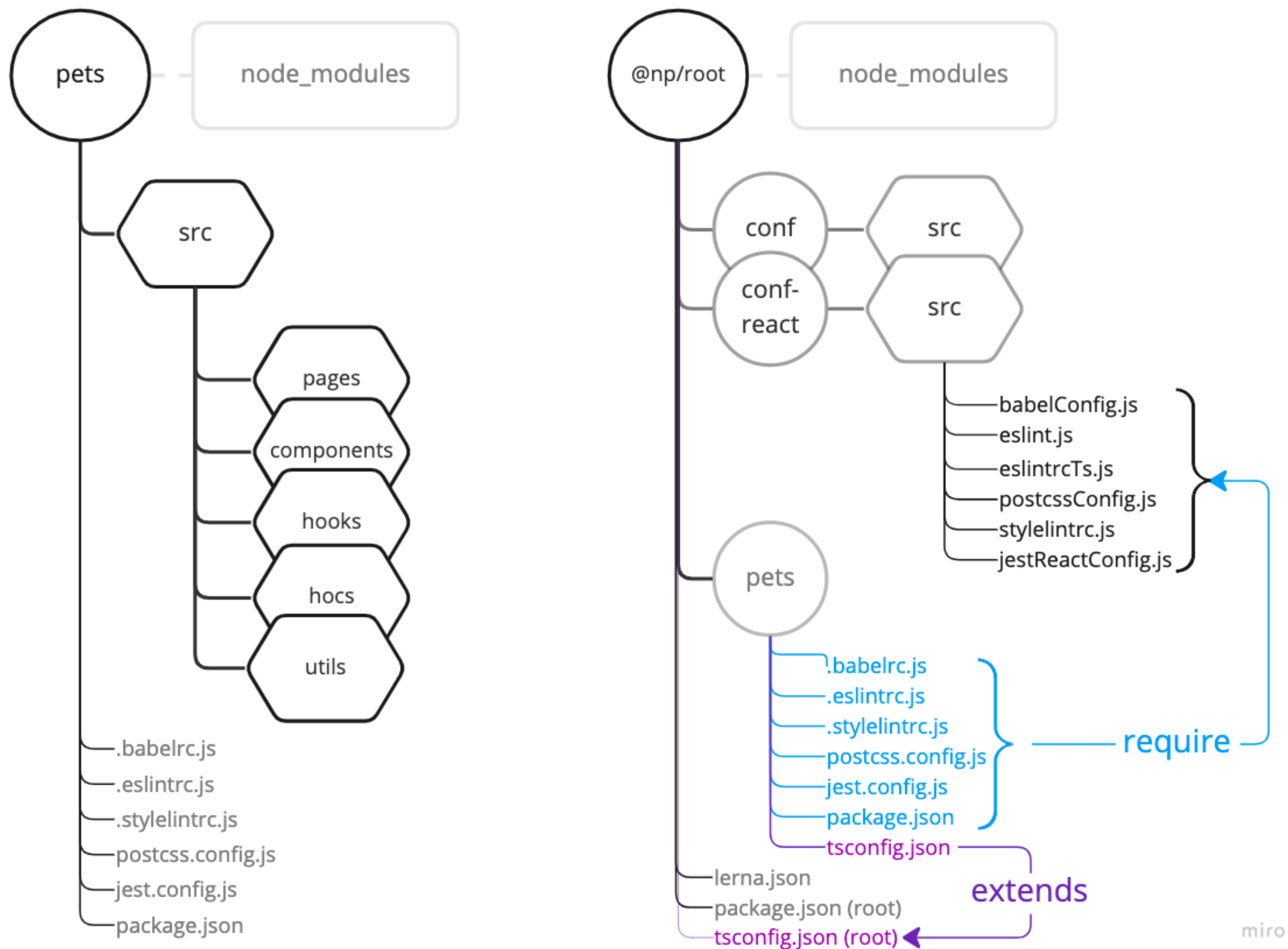
@np/conf

```
module.exports = {  
  eslintrcTs: require('./eslintrc-ts.js'),  
  eslintrc: require('./eslintrc.json'),  
  babelConfig: require('./babel.config'),  
};
```

@np/conf-react

```
module.exports = {  
  webpackConfig: require('./src/webpack.config'),  
  stylelintrc: require('./src/stylelintrc.json'),  
  postcssConfig: require('./src/postcssConfig.json'),  
  jestReactConfig: require('./src/jest.config.json'),  
};
```

Что осталось в пакетах



Применяем конфиги

```
// .babelrc.js
module.exports = require('@np/conf').babelConfig(__dirname);
```

```
// .eslintrc.js для JS-пакетов
module.exports = require('@np/conf').eslintrc;
```

```
// .eslintrc.js для TS-пакетов
module.exports = require('@np/conf').eslintrcTs;
```

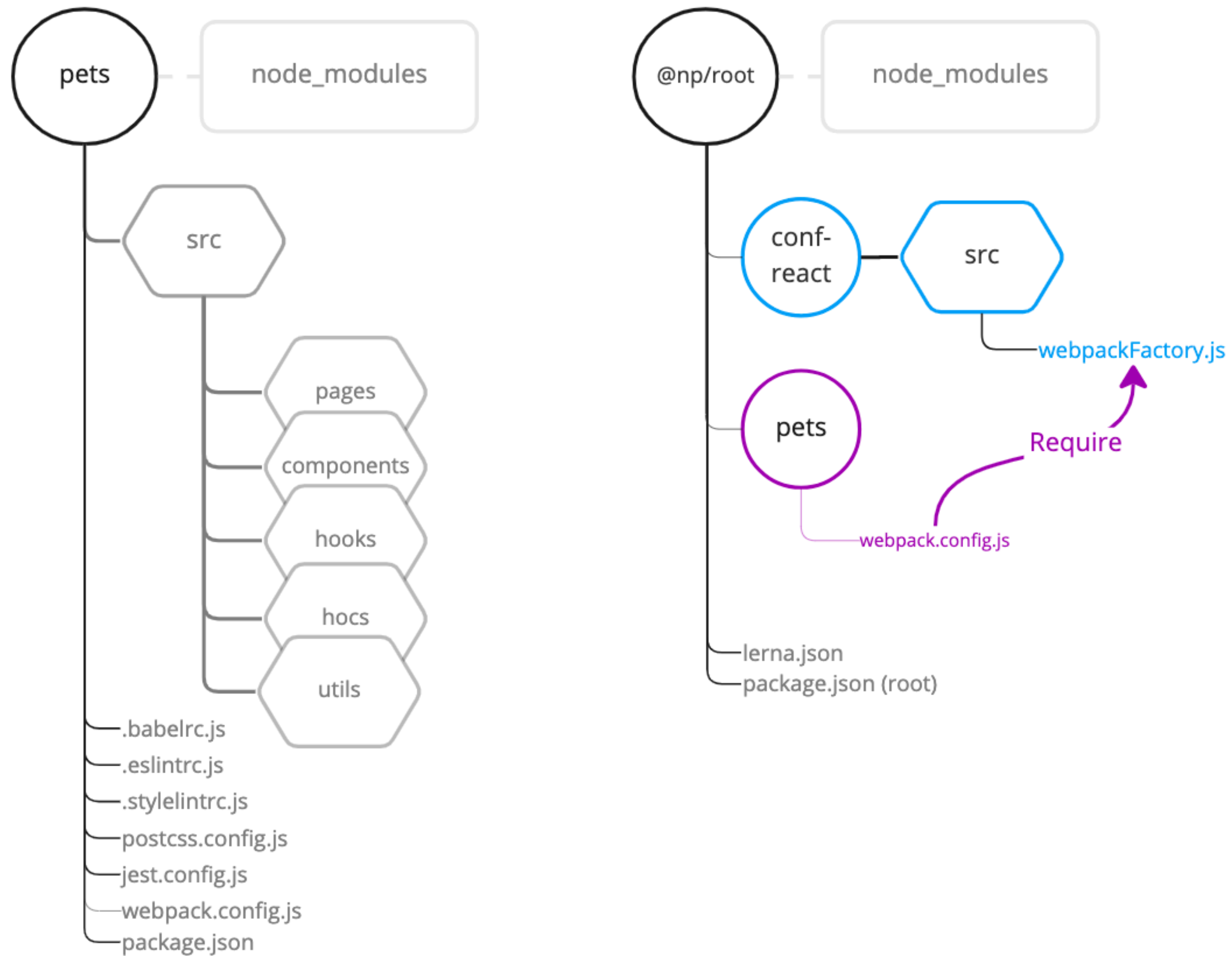
```
// .stylelintrc.js
module.exports = require('@np/conf-react').stylelintrc;
```

```
// postcss.config.js
module.exports = require('@np/conf-react').postcssConfig;
```

```
// jest.config.js
module.exports = require('@np/conf-react').jestReactConfig;
```

```
// tsconfig.json
{
  "extends": "../../tsconfig.base",
  "compilerOptions": {
    "lib": [ "es6", "dom"],
    "baseUrl": "../",
    "rootDir": "../"
  },
  "include": ["src", "../../custom.d.ts"]
}
```

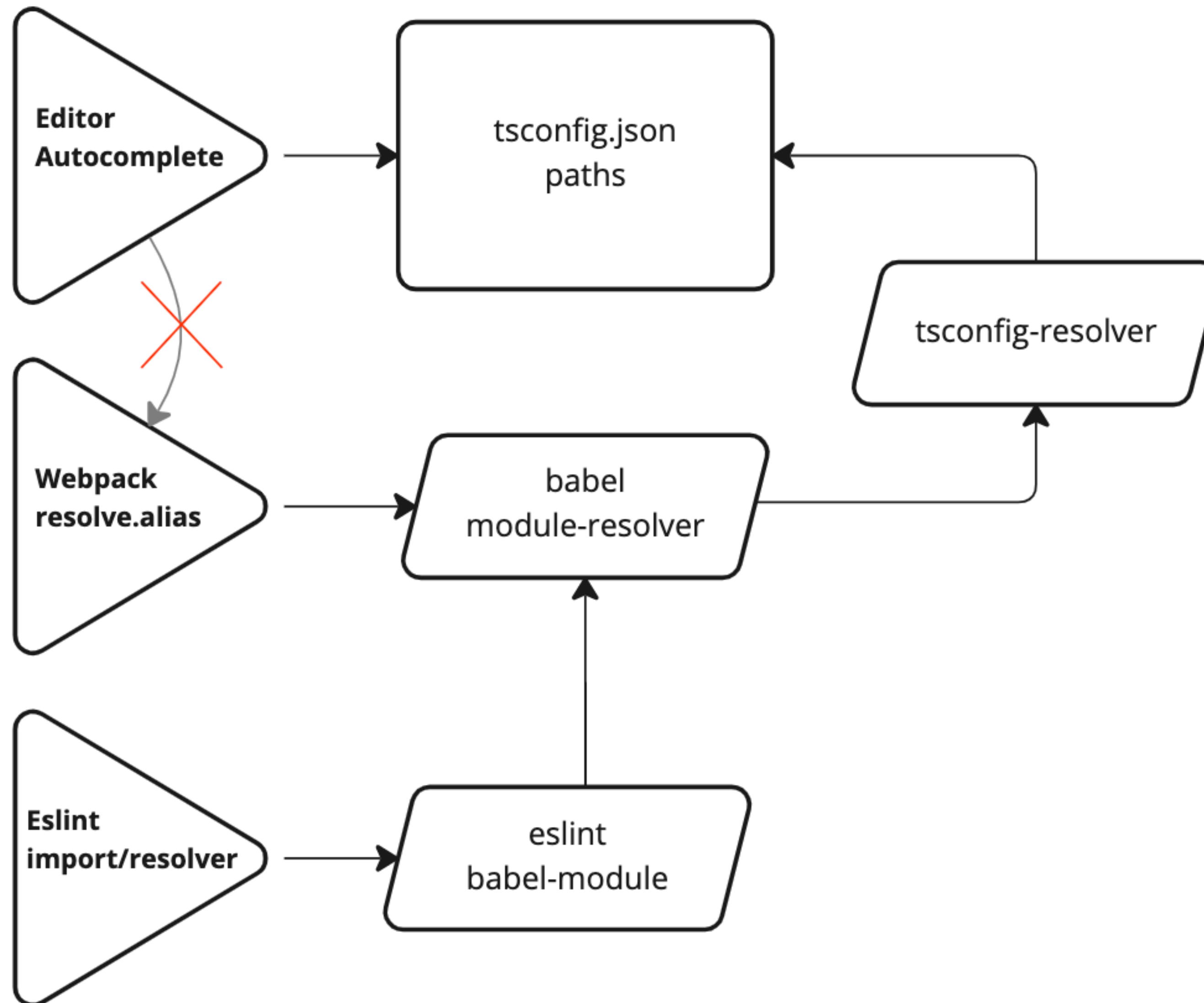
Webpack - почти так же



Webpack - почти так же

```
...commonConfig,  
module: {  
  ...commonConfig.module,  
  rules: [  
    {  
      test: path.resolve(__dirname, './src'),  
      use: [  
        { loader: 'expose-loader', options: 'beeline.pages' },  
        { loader: 'babel-loader?cacheDirectory' },  
      ],  
    },  
    ...commonConfig.module.rules,  
  ],  
},
```


Особенности babel-конфига



Было 86 зависимостей

```
25 "dependencies": {
26   "@babel/cli": "^7.7.0",
27   "@babel/core": "^7.6.0",
28   "@babel/plugin-proposal-class-properties": "^7.5.5",
29   "@babel/plugin-proposal-decorators": "^7.6.0",
30   "@babel/plugin-proposal-object-rest-spread": "^7.5.5",
31   "@babel/plugin-transform-react-constant-elements": "^7.6.0",
32   "@babel/plugin-transform-react-inline-elements": "^7.2.0",
33   "@babel/plugin-transform-runtime": "^7.6.0",
34   "@babel/polyfill": "^7.6.0",
35   "@babel/preset-env": "^7.6.0",
36   "@babel/preset-react": "^7.0.0",
37   "@babel/runtime": "^7.6.0",
38   "@hot-loader/react-dom": "^16.8.6",
39   "@types/react-router-dom": "^5.1.5",
40   "axios": "^0.18.0",
41   "babel-loader": "^8.0.6",
42   "babel-plugin-transform-react-remove-prop-types": "^0.4.24",
43   "circular-dependency-plugin": "^5.2.0",
44   "classnames": "^2.2.6",
45   "core-js": "^3.2.1",
46   "cross-env": "^5.1.6",
47   "css-loader": "^0.28.11",
48   "date-fns": "^2.8.1",
49   "deepmerge": "^4.2.2",
50   "expose-loader": "^0.7.5",
51   "extract-text-webpack-plugin": "^4.0.0-beta.0",
52   "file-loader": "^4.2.0",
53   "final-form": "^4.20.1",
54   "history": "^4.10.1",
55   "html-webpack-plugin": "^3.2.0",
56   "immutability-helper": "^2.7.0",
57   "normalize.css": "^8.0.0",
58   "postcss-cssnext": "^3.1.0",
59   "postcss-for": "^2.1.1",
60   "postcss-import": "^11.1.0",
61   "postcss-loader": "^2.1.5",
62   "postcss-mixins": "^6.2.0",
63   "postcss-nested": "^3.0.0",
64   "postcss-url": "^7.3.2",
65   "pug": "^2.0.4",
```

```
66   "pug-loader": "^2.4.0",
67   "react": "^16.12.0",
68   "react-final-form": "^6.5.1",
69   "react-hot-loader": "^4.12.13",
70   "react-is": "^16.12.0",
71   "react-redux": "^7.1.1",
72   "react-router-dom": "^5.2.0",
73   "react-spring": "^8.0.27",
74   "react-svg-loader": "^2.1.0",
75   "react-use-gesture": "^7.0.16",
76   "recompose": "^0.30.0",
77   "redux": "^4.0.0",
78   "redux-thunk": "^2.3.0",
79   "reselect": "^3.0.1",
80   "rimraf": "^3.0.0",
81   "shallow-equal": "^1.2.0",
82   "svg-react-loader": "^0.4.5",
83   "url-loader": "^1.0.1",
84   "webpack": "^4.32.2",
85   "webpack-cli": "^3.3.2",
86   "whatwg-fetch": "^3.0.0",
87   "xhr": "^0.12.0"
88 },
89 "devDependencies": {
90   "babel-eslint": "^10.0.1",
91   "babel-watch": "^7.0.0",
92   "copy-webpack-plugin": "^6.0.3",
93   "eslint": "^5.16.0",
94   "eslint-config-airbnb": "^16.1.0",
95   "eslint-import-resolver-webpack": "^0.11.1",
96   "eslint-plugin-import": "^2.12.0",
97   "eslint-plugin-jsx-a11y": "^6.0.3",
98   "eslint-plugin-react": "^7.8.2",
99   "eslint-plugin-react-hooks": "^1.0.1",
100  "express": "^4.16.3",
101  "prop-types": "^15.6.1",
102  "react-error-overlay": "^4.0.0",
103  "redbox-react": "^1.6.0",
104  "request": "^2.87.0",
105  "request-promise": "^4.2.2",
106  "serve-static": "^1.13.2",
```

```
107   "style-loader": "^0.21.0",
108   "stylelint": "^9.2.1",
109   "stylelint-config-standard": "^18.2.0",
110   "webpack-dev-middleware": "^3.1.3",
111   "webpack-dev-server": "^3.1.4",
112   "webpack-hot-middleware": "^2.22.2",
113   "webpack-visualizer-plugin": "^0.1.11"
114 }
115 }
116 }
```

Стало 9

```
"dependencies": {  
  "@np/conf": "^1.0.0",  
  "@np/conf-react": "^1.0.0",  
  "@np/conf-redux": "^1.0.0",  
  "@np/mobkit": "^1.0.0",  
  "@np/server": "^1.0.0",  
  "@np/utils": "^1.0.0",  
  "whatwg-fetch": "^3.0.0",  
  "react-redux": "^7.2.1",  
  "reselect": "^4.0.0"  
}
```

Стало 9

```
"dependencies": {  
  "@np/conf": "^1.0.0",  
  "@np/conf-react": "^1.0.0",  
  "@np/conf-redux": "^1.0.0",  
  "@np/mobkit": "^1.0.0",  
  "@np/server": "^1.0.0",  
  "@np/utils": "^1.0.0",  
  "whatwg-fetch": "^3.0.0",  
  "react-redux": "^7.2.1",  
  "reselect": "^4.0.0"  
}
```

Denial

Число проектов росло

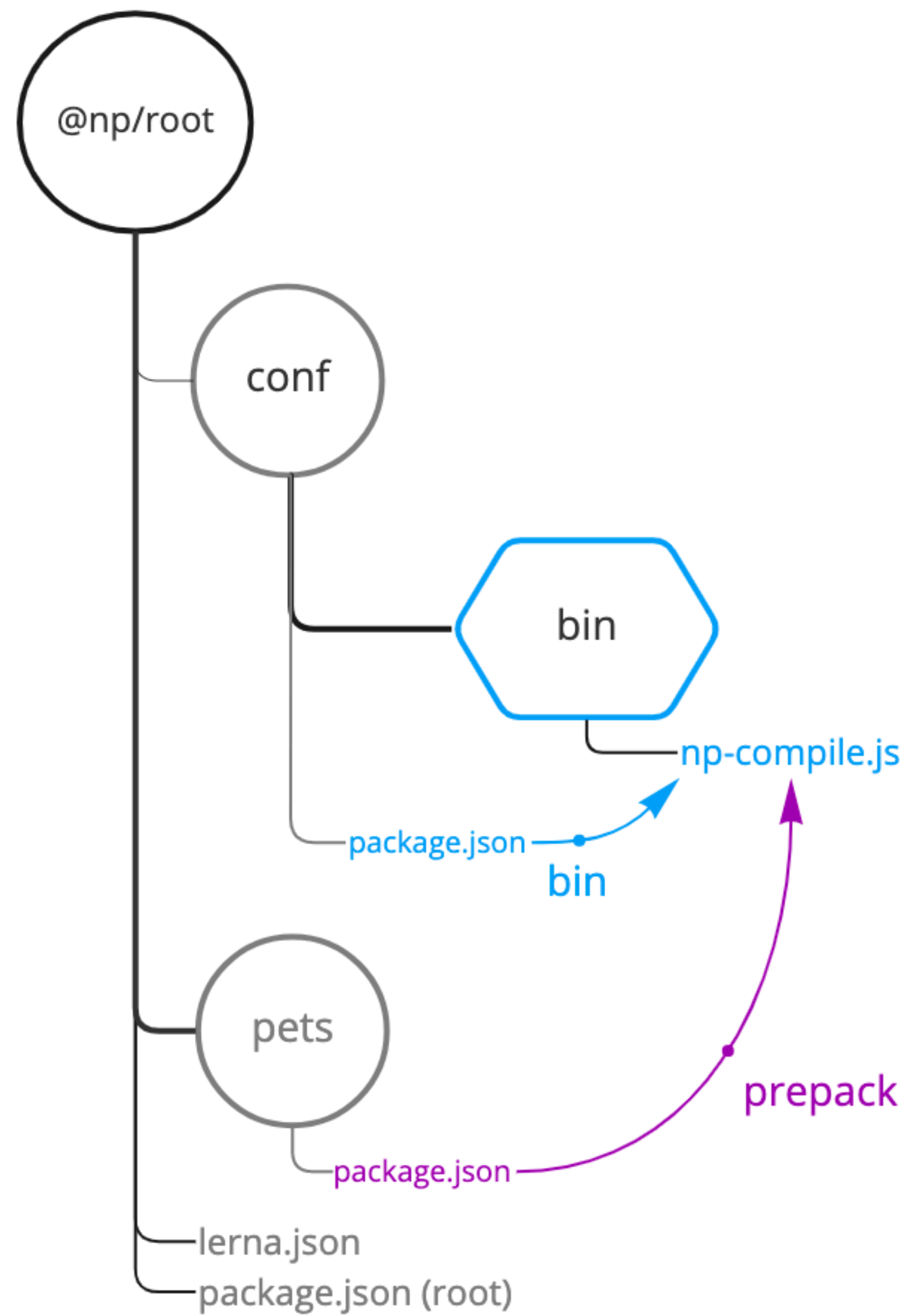


**Будем публиковаться
во внутреннем registry**

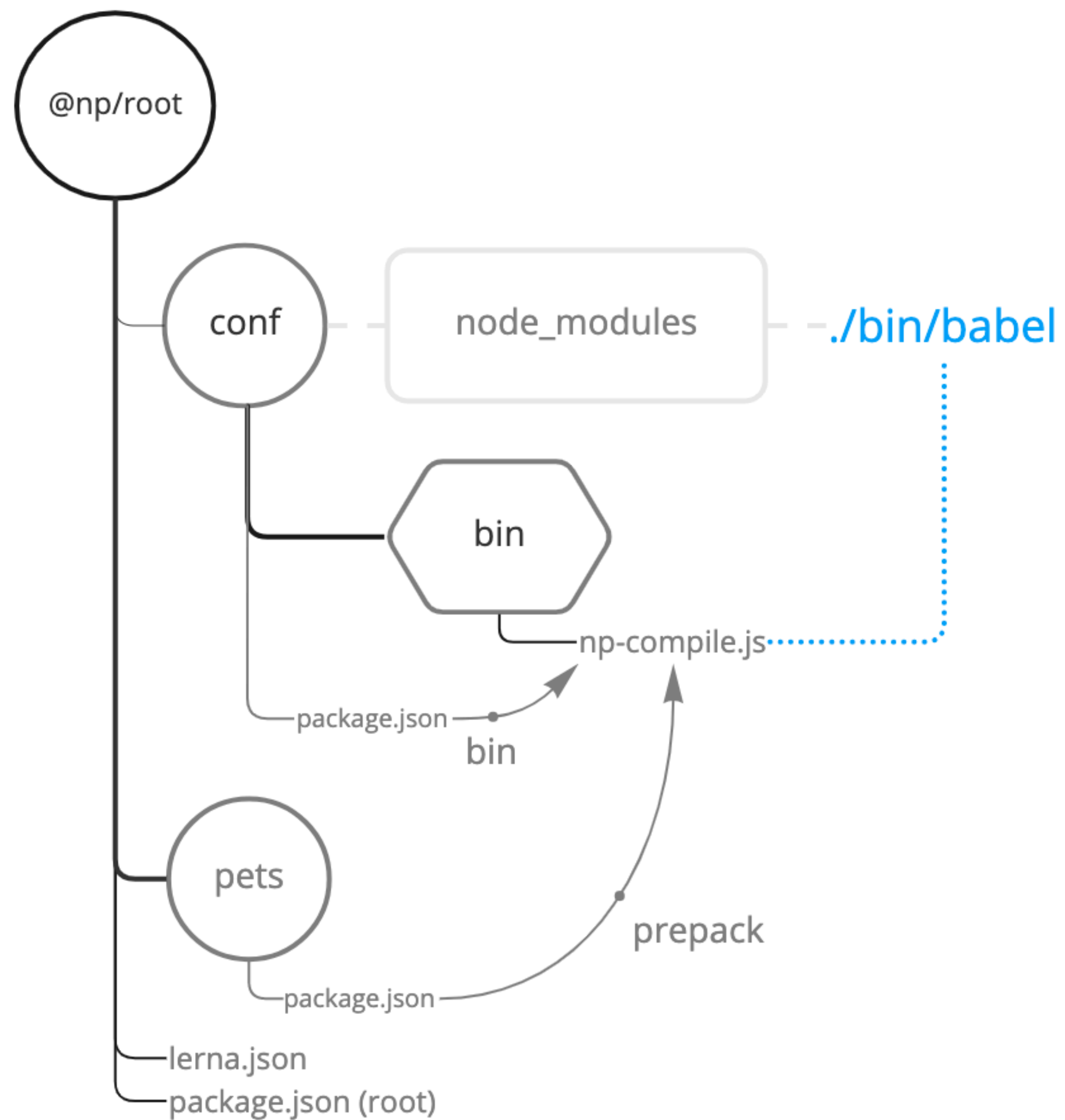


**nexus
repository**

ГОТОВИМ ИСХОДНИКИ



ГОТОВИМ ИСХОДНИКИ



np-compile

```
1  ▶  #!/usr/bin/env node
2
3  const options = '--extensions .js,.jsx,.ts,.tsx --copy-files';
4
5  const bin = require('path').resolve(__dirname, '../node_modules/.bin');
6
7  require('child_process')
8    .execSync( command: `rimraf dist && ${bin}/babel ./src -d ./dist ${options}`, options: {
9      stdout: 'inherit',
10     cwd: process.cwd(),
11     env: {
12       BABEL_ENV: 'node',
13       NODE_ENV: 'production',
14       ...process.env,
15     },
16   });
```

Аналогічно упаковали start/build

```
1  ▶  |#!/usr/bin/env node
2      |
3      |const path = require('path');
4      |const bin = path.resolve(__dirname, '../node_modules/.bin');
5      |
6      |require('child_process')
7      |  .execSync( command: `rimraf build && ${bin}/webpack`, options: {
8      |    |   stdio: 'inherit',
9      |    |   cwd: process.cwd(),
10     |    |   env: {
11     |    |     NODE_ENV: 'production',
12     |    |     ...process.env,
13     |    |   },
14     |  });
15
```

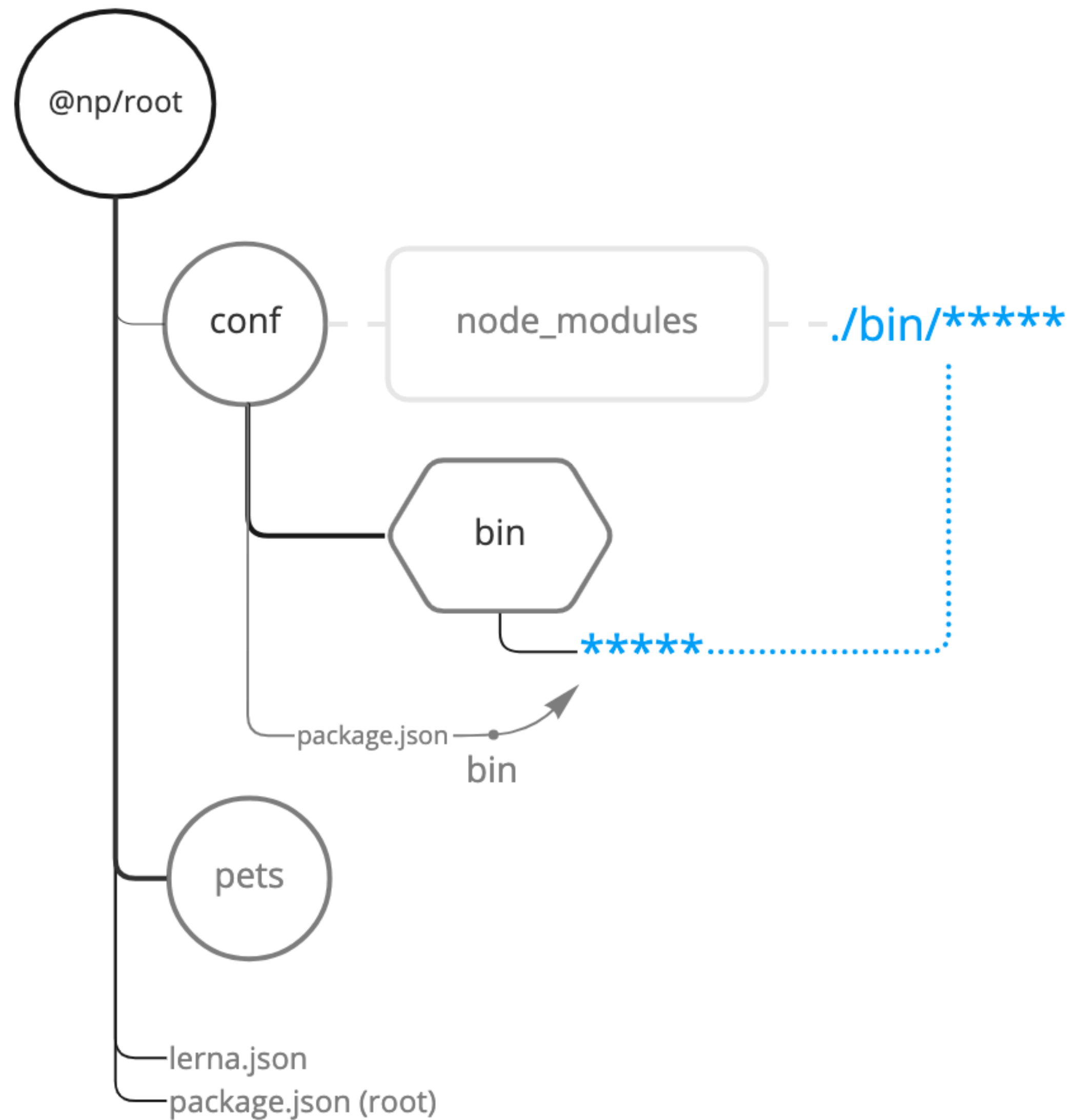
Заодно почистили npm-scripts

```
"scripts": {  
  "build": "np-build",  
  "build-test": "cross-env RUN_ENV=test np-build",  
  "eslint": "eslint --cache --ext .jsx,.js ./",  
  "lint": "yarn run eslint && yarn run stylelint",  
  "server": "np-server",  
  "start": "np-start",  
  "test": "jest",  
  "np-prepare": "np-compile"  
},
```

Ещё не всё

- tsconfig и custom.d.ts
- cross-env, rimraf, babel-watch (vendor-скрипты)

Ре-экспорт через bin



Bin-секция @np/conf

```
11  "bin": {  
12    "cross-env": "./node_modules/.bin/cross-env",  
13    "rimraf": "./node_modules/.bin/rimraf",  
14    "babel-watch": "./node_modules/.bin/babel-watch",  
15    "ncp": "./node_modules/.bin/ncp",  
16    "webpack": "./node_modules/.bin/webpack",  
17    "np-compile": "bin/np-compile.js",  
18    "np-cleanup": "bin/np-cleanup.js",  
19    "np-tsconfig.base.json": "bin/np-tsconfig.base.json",  
20    "np-tsconfig.web.json": "bin/np-tsconfig.web.json",  
21    "np-custom.d.ts": "bin/custom.d.ts"  
22  },
```

Проверяем!

Не работает



Посадили на гвозди

```
41  const loaders = ({
42      expose: require.resolve(id: 'expose-loader'),
43      babel: require.resolve(id: 'babel-loader'),
44      css: require.resolve(id: 'css-loader'),
45      postcss: require.resolve(id: 'postcss-loader'),
46      style: require.resolve(id: 'style-loader'),
47      svgr: require.resolve(id: '@svgr/webpack'),
48  });
```


Завелось



Anger

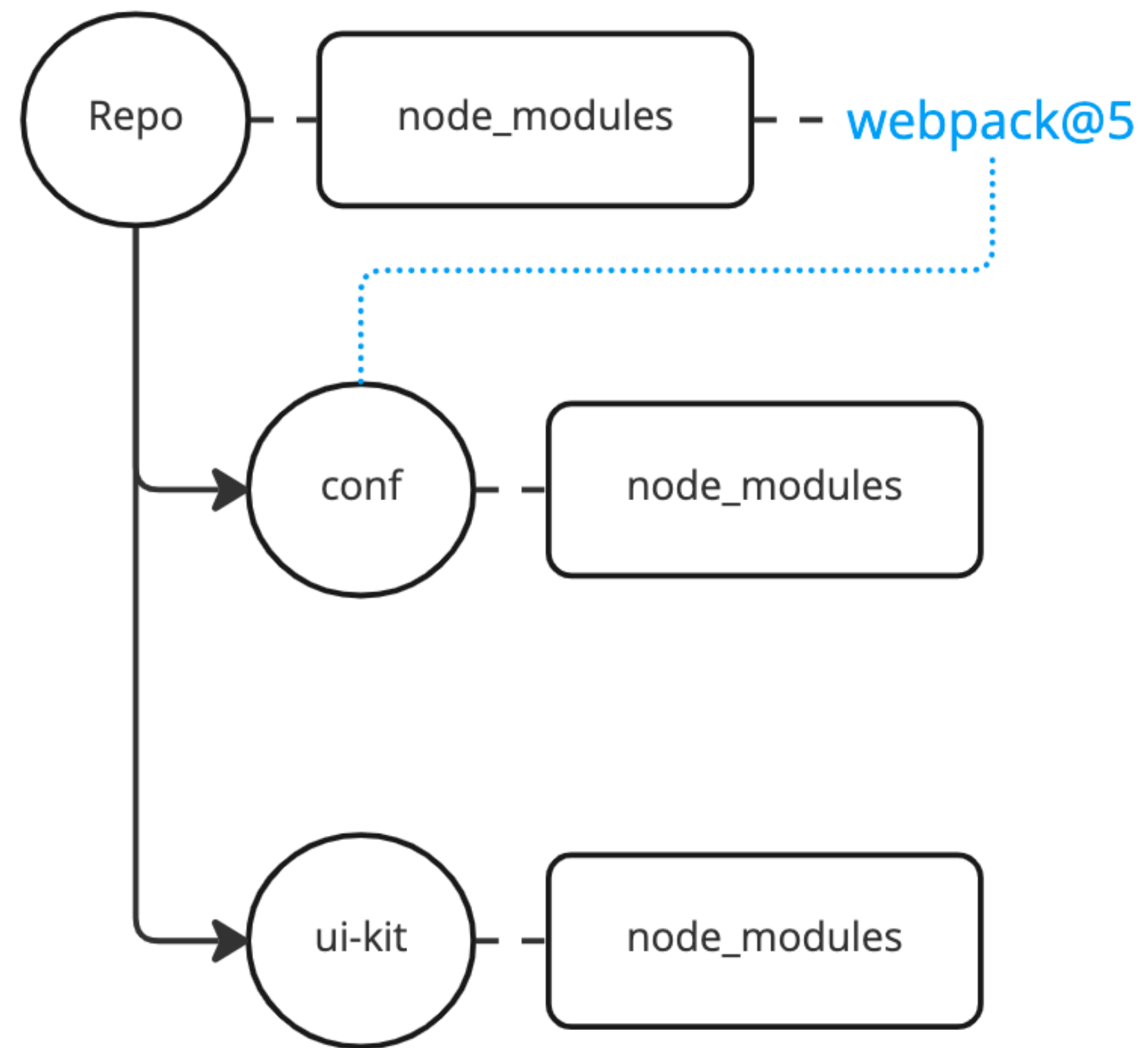
Добавили storybook для ui-kit

```
"devDependencies": {  
  "@storybook/addon-actions": "^6.5.13",  
  "@storybook/addon-essentials": "^6.5.13",  
  "@storybook/addon-links": "^6.5.13",  
  "@storybook/react": "^6.5.13"  
}
```

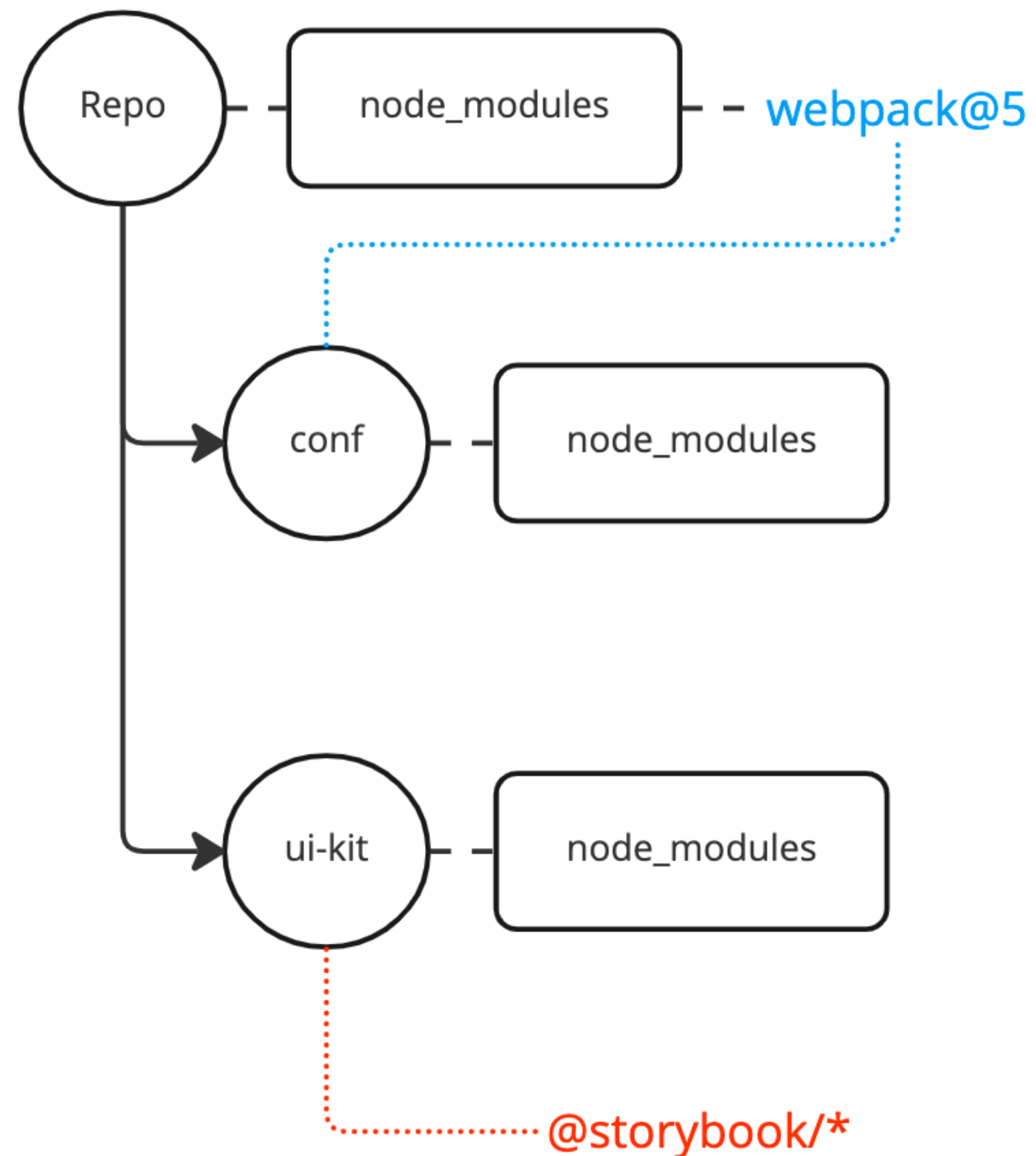
Сломался webpack



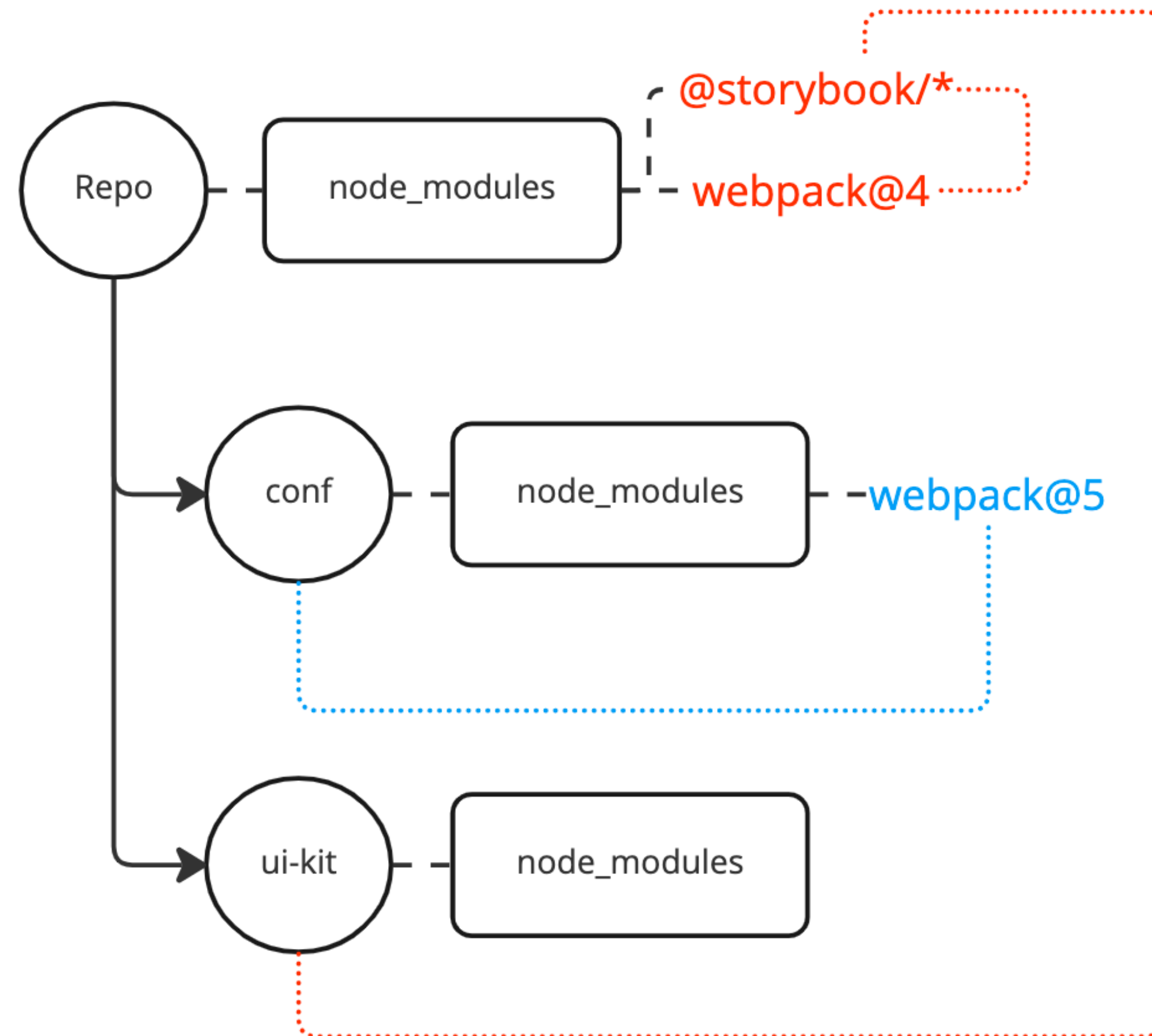
Стали разбираться



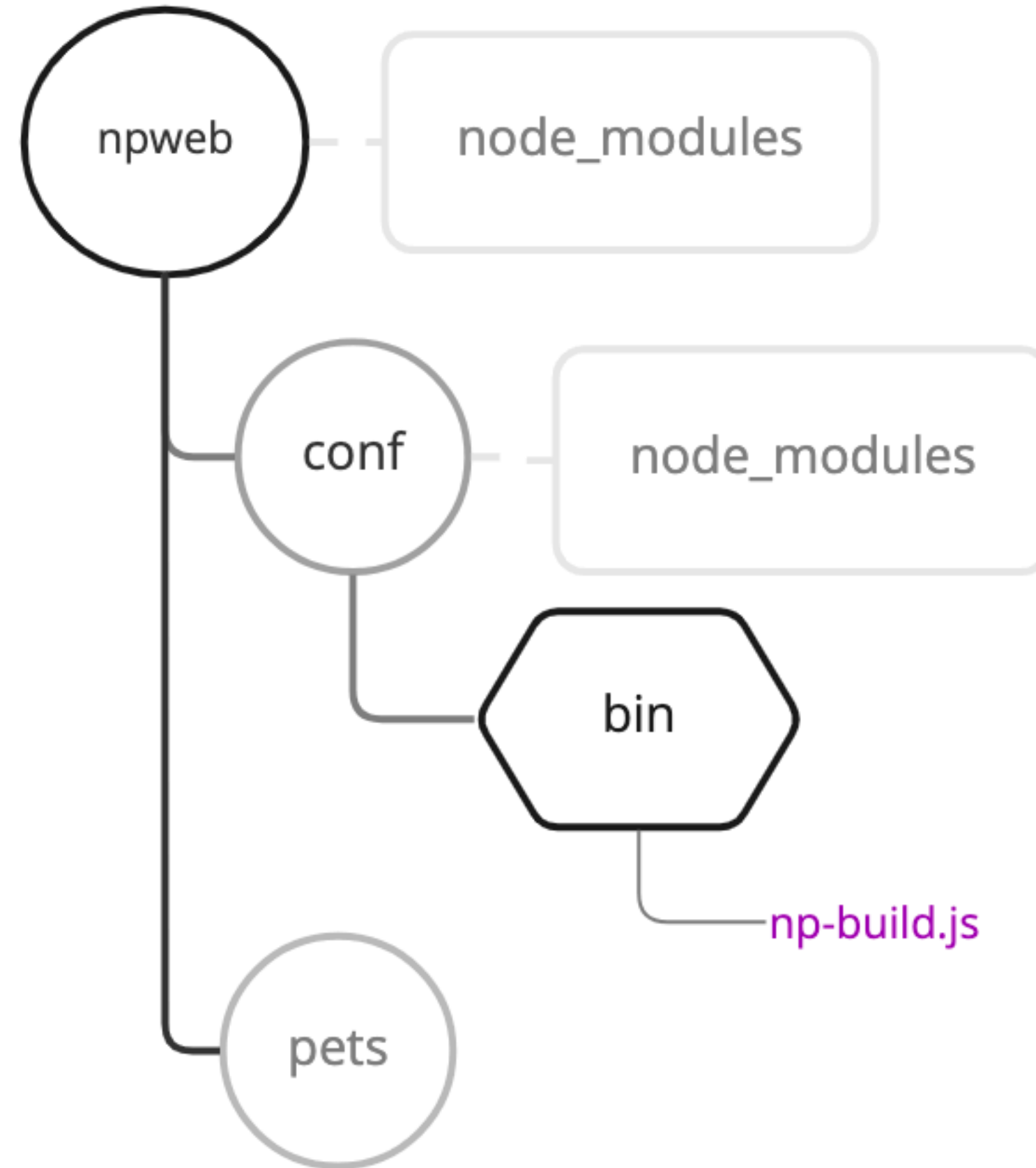
Стали разбираться



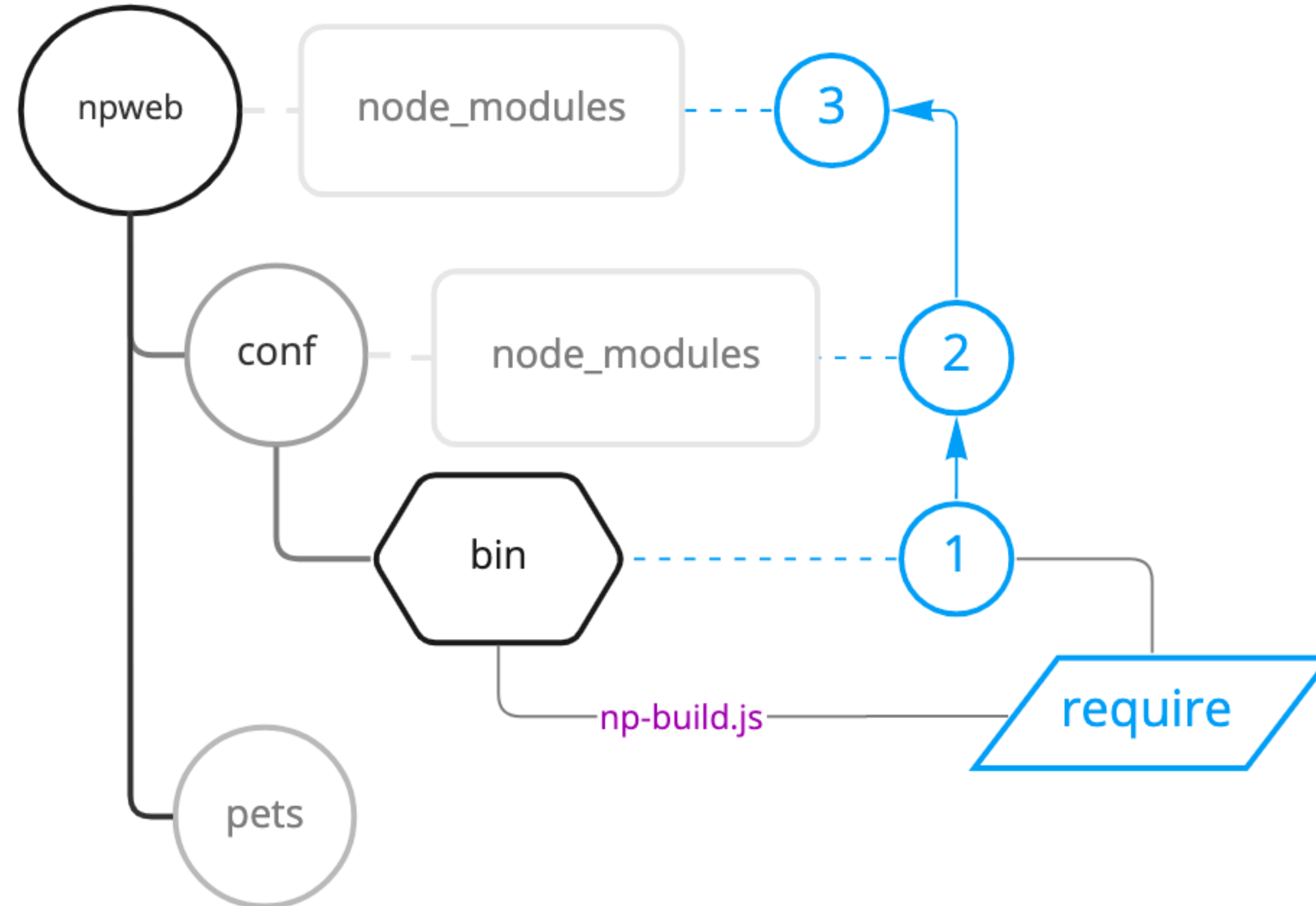
Стали разбираться



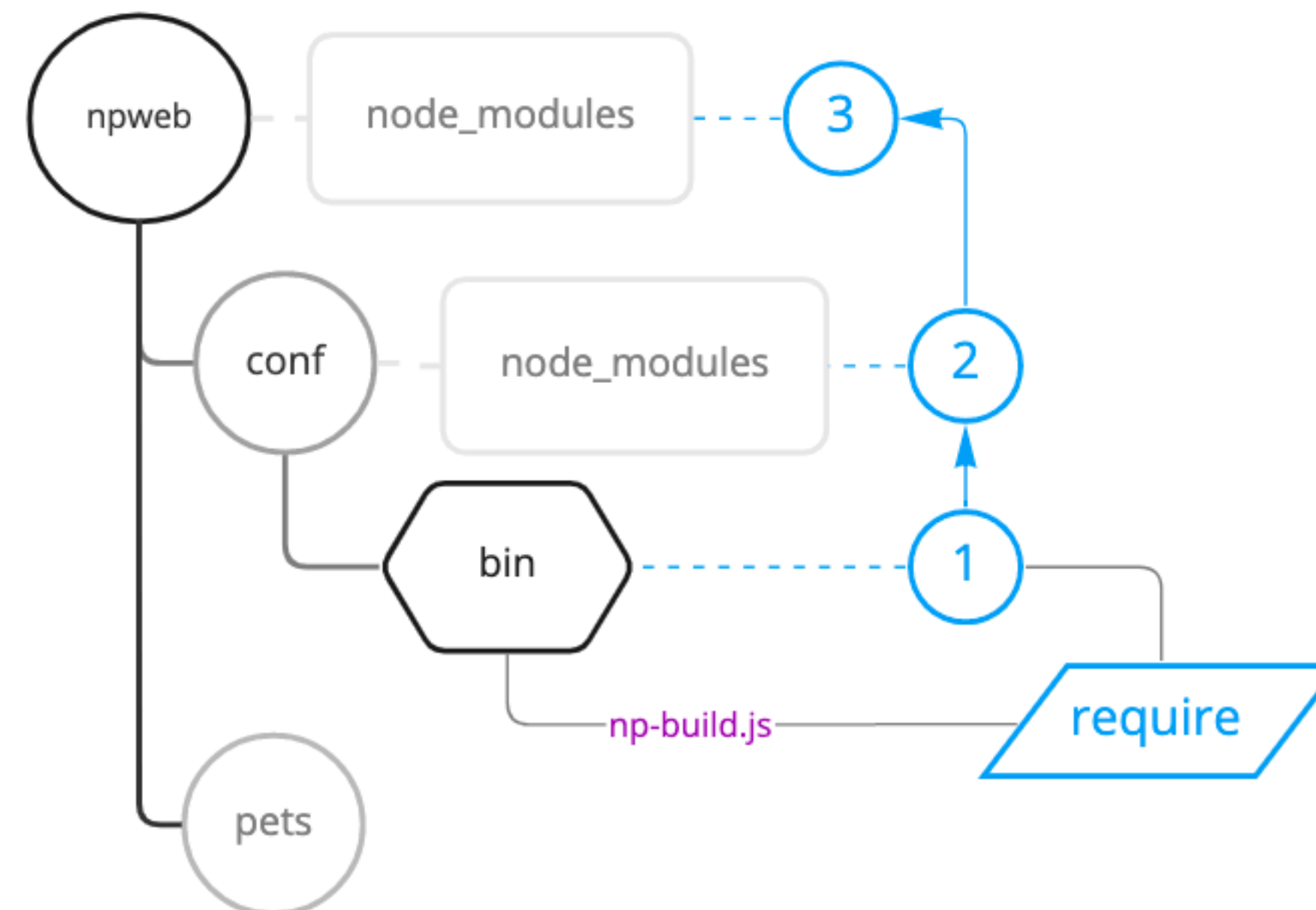
ModuleResolution



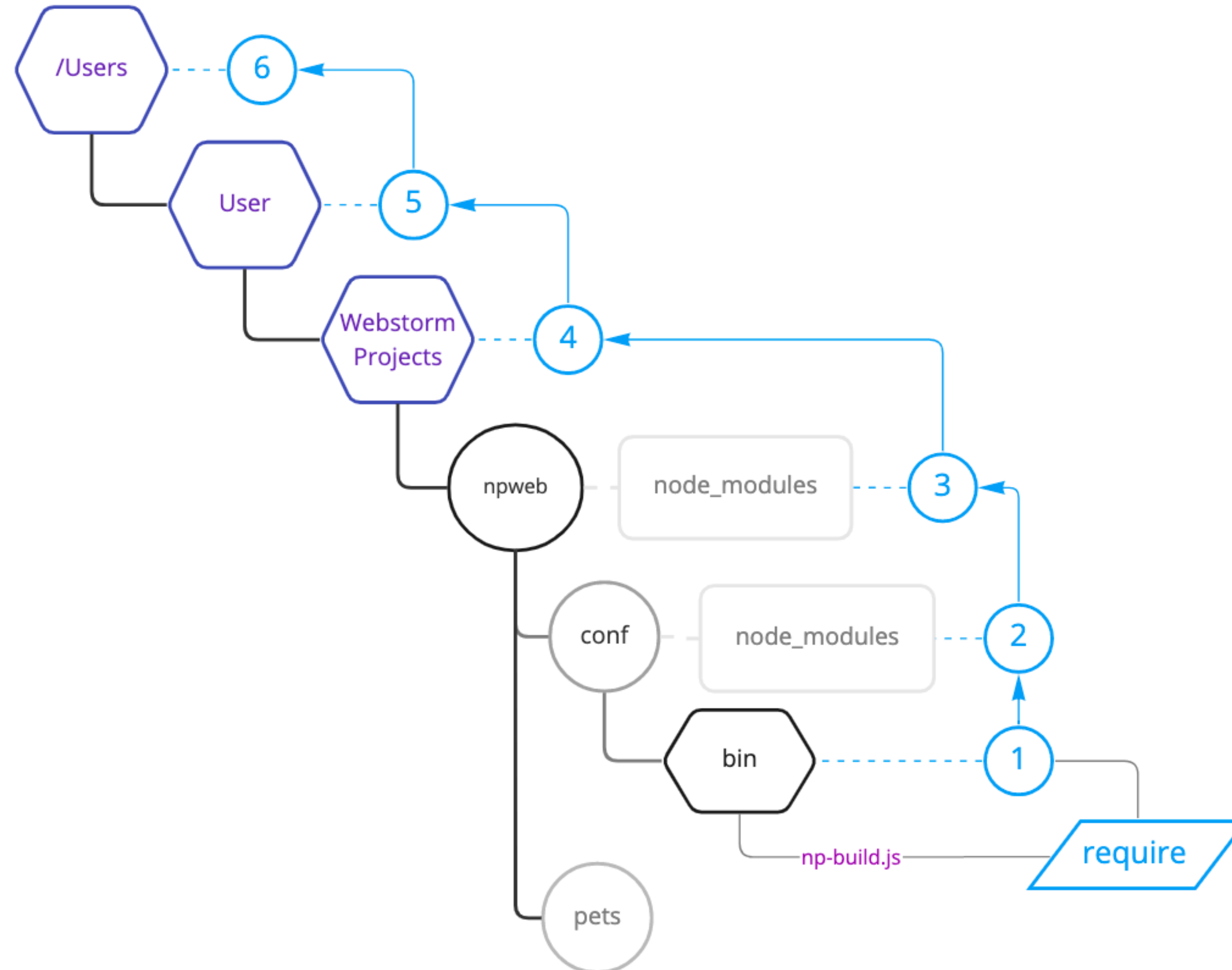
ModuleResolution



ModuleResolution



ModuleResolution



Module._nodeModulePaths()

Исправляем

```
const getPackageRootPath = (packageName) => path.dirname(require.resolve(id: `${packageName}/package.json`));
const addCoreNodeModulesPaths = (corePackages) => {
  Module._nodeModulePaths = function (from) {
    const corePaths = corePackages.map((name) => path.resolve(getPackageRootPath(name)));
    const paths = originalNodeModulePaths.call(this, from);
    if (!isAllowedPath(from) || isCorePath(from, corePaths)) {
      console.log('---', from);
      return paths;
    }
    console.log('+++', from, paths);
    const addedPaths = corePaths.map((corePath) => path.resolve(corePath, 'node_modules'));
    return [
      ...addedPaths,
      ...paths,
    ];
  };
};
```

```
addCoreNodeModulesPaths( corePackages: ['@np/redux', '@np/react', '@np/conf']);
```

Исправляем

```
const getPackageRootPath = (packageName) => path.dirname(require.resolve(id: `${packageName}/package.json`));
const addCoreNodeModulesPaths = (corePackages) => {
  Module._nodeModulePaths = function (from) {
    const corePaths = corePackages.map((name) => path.resolve(getPackageRootPath(name)));
    const paths = originalNodeModulePaths.call(this, from);
    if (!isAllowedPath(from) || !isCorePath(from, corePaths)) {
      console.log('---', from);
      return paths;
    }
    console.log('+++', from, paths);
    const addedPaths = corePaths.map((corePath) => path.resolve(corePath, 'node_modules'));
    return [
      ...addedPaths,
      ...paths,
    ];
  };
};
```

```
addCoreNodeModulesPaths( corePackages: ['@np/redux', '@np/react', '@np/conf']);
```


Малой кровью

```
"husky": "^4.3.8",
```

```
"lerna": "^3.22.1"
```

22

22

└─ 23 23

24

24

```
"husky": "^4.3.8",
```

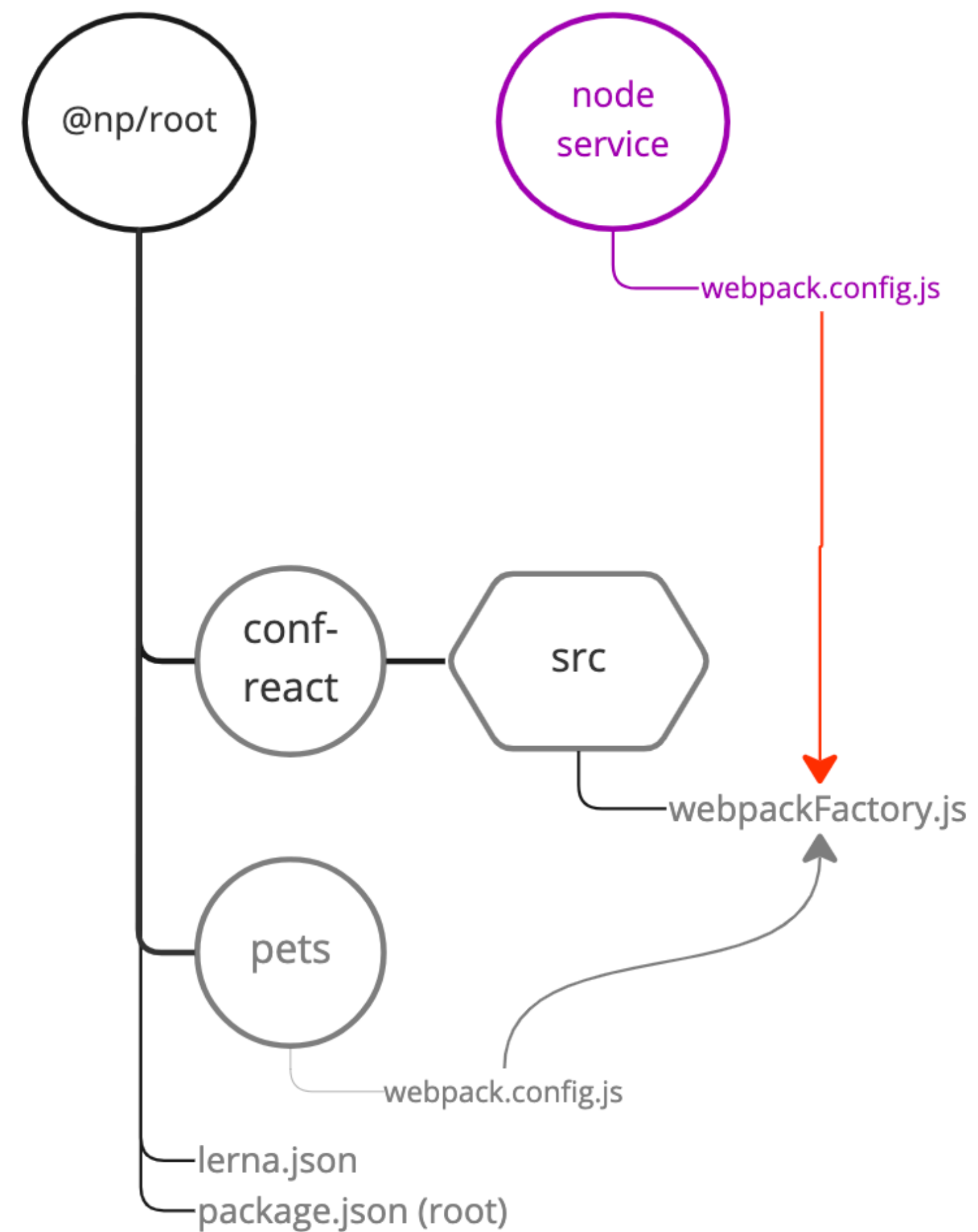
```
"lerna": "^3.22.1",
```

```
"webpack": "^5.64.4"
```

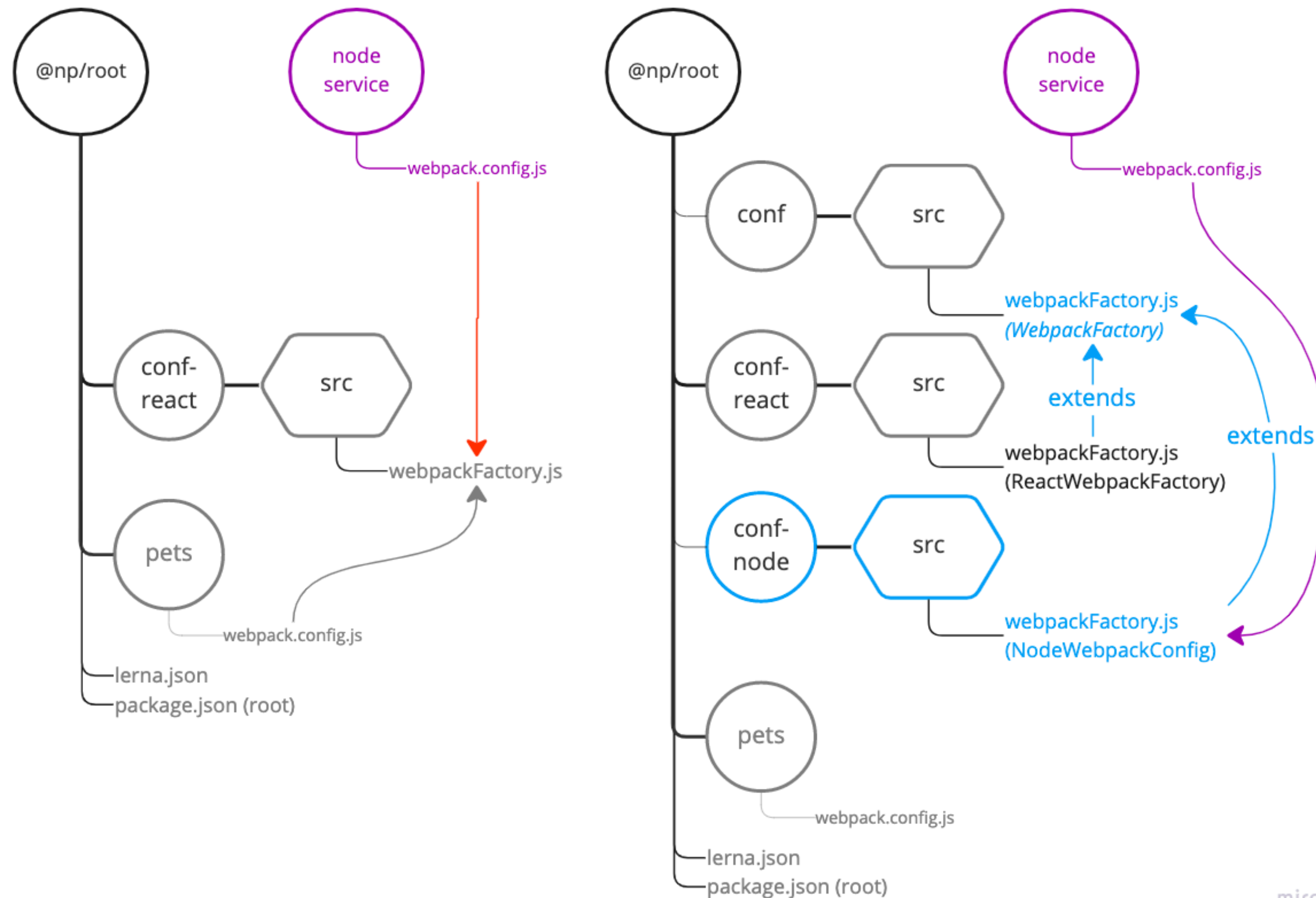
Bargaining

**Появился NodeJS-сервис
на Webpack**

NodeJS-сервис зависит от React?



Делим базовый конфиг



Делим базовый конфиг

@np/react

```
"@svgr/webpack": "^6.0.0",
"@types/classnames": "^2.3.1",
"@types/react": "^17.0.37",
"@types/react-dom": "^17.0.11",
"babel-loader": "^8.2.3",
"babel-plugin-transform-react-remove-prop-types": "^0.4.24",
"circular-dependency-plugin": "^5.2.2",
"classnames": "^2.3.1",
"copy-webpack-plugin": "^10.0.0",
"css-loader": "^6.5.1",
"enzyme": "^3.11.0",
"enzyme-adapter-react-16": "^1.15.6",
"expose-loader": "^3.1.0",
"file-loader": "^6.2.0",
"html-webpack-plugin": "^5.5.0",
"mini-css-extract-plugin": "^2.4.5",
```

@np/conf

```
"jest": "^27.4.2",
"loglevel": "^1.8.0",
"ncp": "^2.0.0",
"rimraf": "^3.0.2",
"stylelint": "^14.1.0",
"stylelint-config-standard": "^24.0.0",
"tsconfig-resolver": "^3.0.1",
"typescript": "^4.5.2",
"babel-loader": "^8.2.3",
"circular-dependency-plugin": "^5.2.2",
"copy-webpack-plugin": "^10.0.0",
"webpack": "^5.64.4",
"webpack-cli": "^4.9.1",
"webpack-manifest-plugin": "^4.0.2",
"webpack-visualizer-plugin": "^0.1.11",
},
```


Делим базовый конфиг

```
class WebpackFactory {  
  get plugins() {  
    return {  
      CopyWebpackPlugin,  
      CircularDependencyPlugin,  
      WebpackManifestPlugin,  
      EnvironmentPlugin,  
    };  
  }  
}
```

```
class ReactWebpackBuilder extends WebpackFactory {  
  get plugins() {  
    return {  
      ...super.plugins,  
      MiniCssExtractPlugin,  
      HtmlWebpackPlugin,  
      ReactRefreshWebpackPlugin,  
    };  
  }  
}
```

Красота

```
useRule( rules: [rules.font, rules.img, rules.docs], loaders.asset),
useRule(rules.svg, oneOfLoaders(
  loaders.resourceUrl,
  loaders.svg,
  loaders.asset,
)),
useRule(rules.pug, loaders.pug),
].filter(Boolean),
},

plugins: [
  ...config.plugins,
  usePlugin(plugins.ReactRefreshWebpackPlugin, options: undefined, isHMR),
  usePlugin(plugins.MinCssExtractPlugin, options: {
    filename: () => `${filePattern}.css`,
  }, isProduction),
].filter(Boolean),
```

Depression

Нестабильное равновесие



Прибили гвоздями прочие конфиги

```
// fixes module resolution
```

```
const _ = require.resolve;
```

```
module.exports = (cwd) => function babelConfig(api) {
```

```
  const isProduction = api.env(['production']);
```

```
  const isNode = api.env(['node', 'test']);
```

```
  return {
```

```
    plugins: [
```

```
      [_( 'babel-plugin-module-resolver' ), {
```

```
        extensions: ['.js', '.jsx', '.ts', '.tsx'],
```

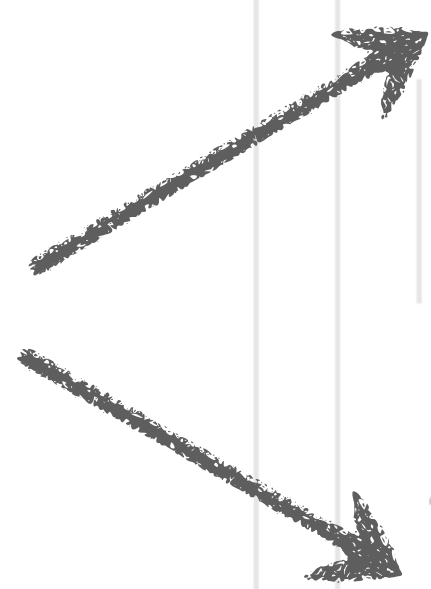
```
        alias: getResolveAliases(cwd),
```

```
      }],
```

```
      _('babel-plugin-const-enum'),
```

```
      [_( '@babel/plugin-proposal-decorators' ), { legacy: true }],
```

```
      _('@babel/plugin-proposal-class-properties'),
```



Отвалился react-hot-loader

```
injectHMREntry = (entry) => {  
  const { env: { isHMR } } = this;  
  return [  
    ...isHMR ? [require.resolve('react-hot-loader/patch')]  
    this.options.patchedReactDOM,  
    ...Array.isArray(entry) ? entry : [entry],  
  ];  
}
```

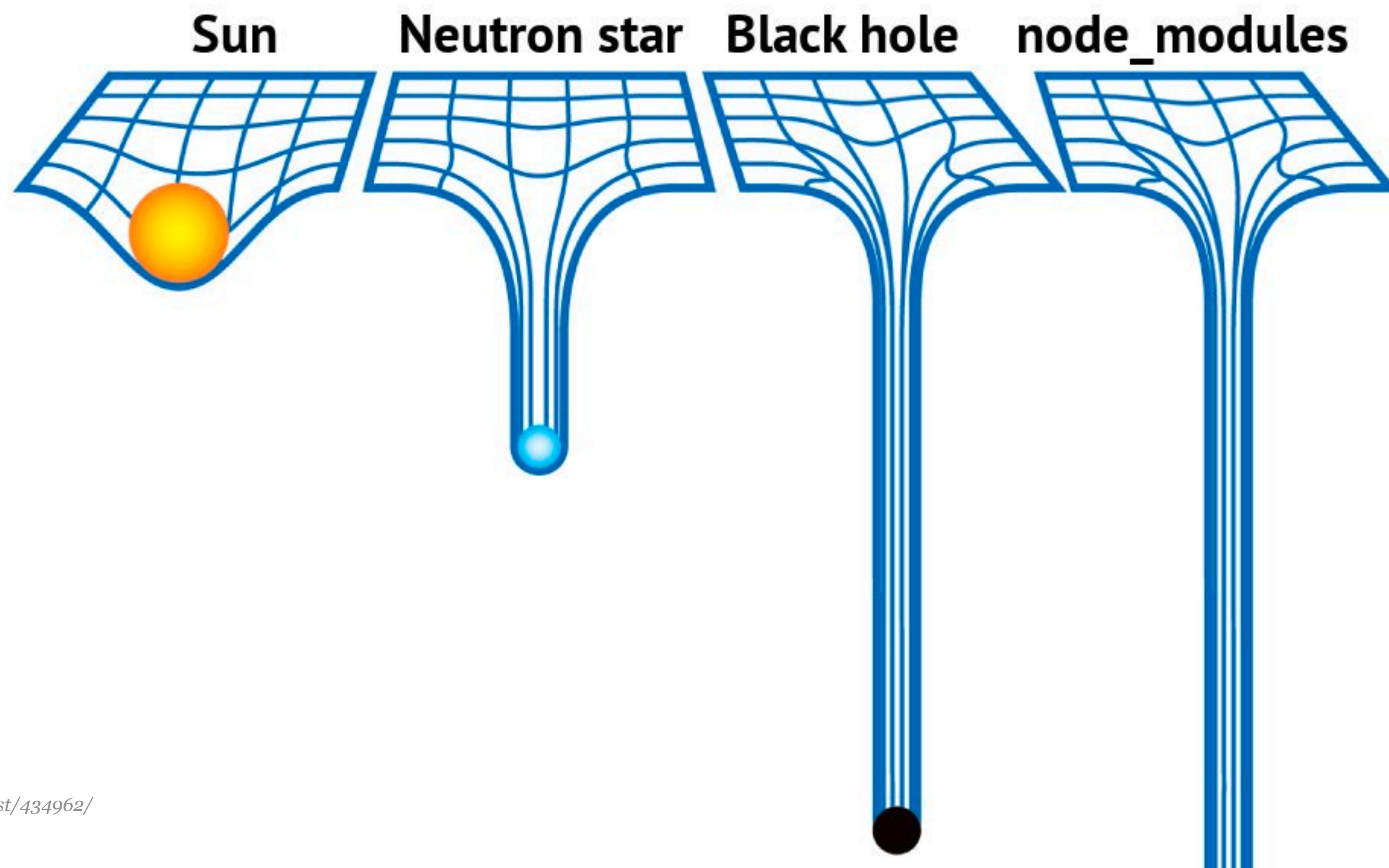
123	123
124	124
125	125
126	126
127	127
128	128
129	129

```
injectHMREntry = (entry) => {  
  const { env: { isHMR } } = this;  
  return [  
    ...isHMR ? ['react-hot-loader/patch']  
    this.options.patchedReactDOM,  
    ...Array.isArray(entry) ? entry : [en  
  ];  
}
```


Acceptance



yarn

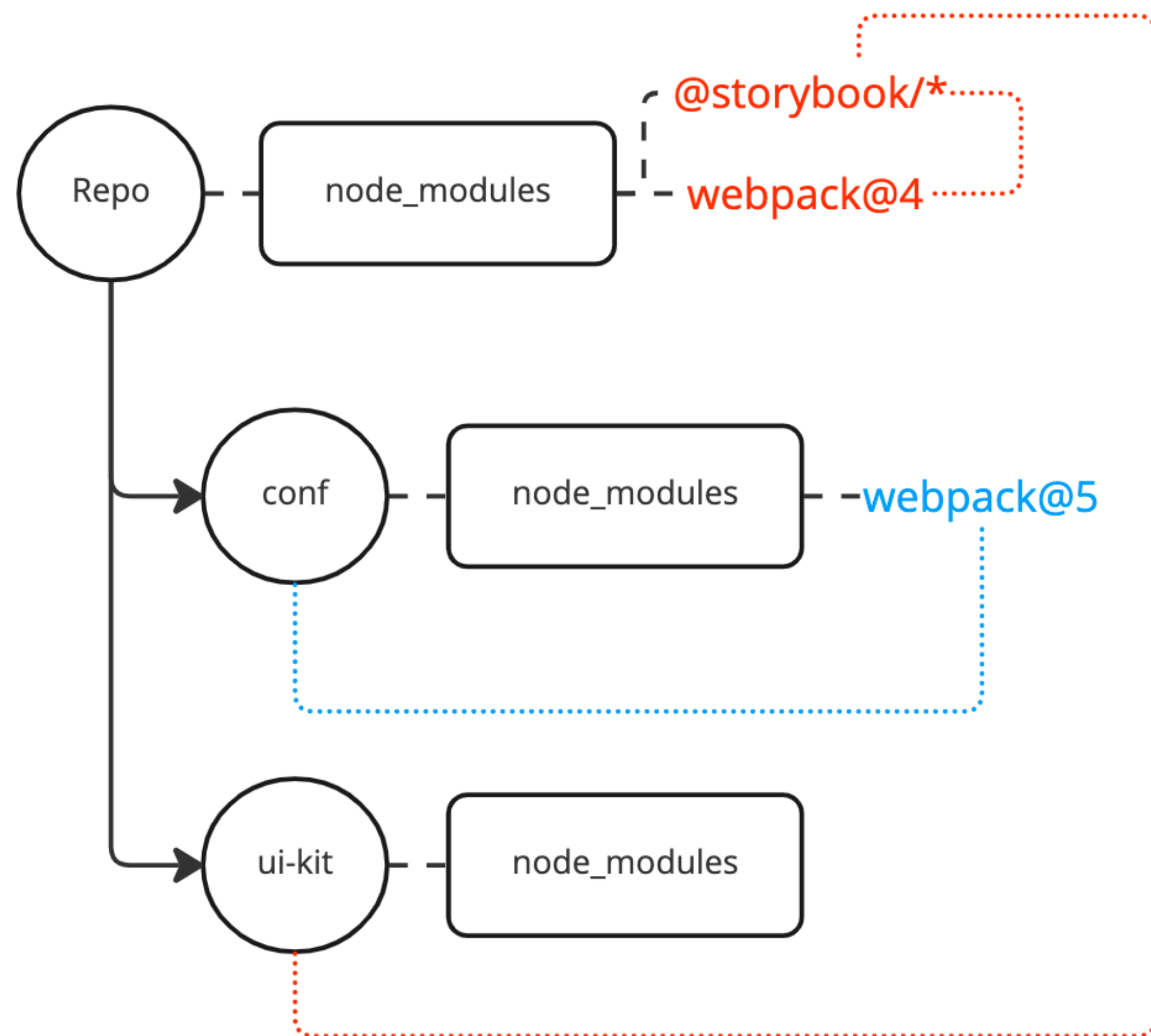




Ключевые отличия

- Plug and play
- Transitive dependencies
- Binaries

Недетерминированность

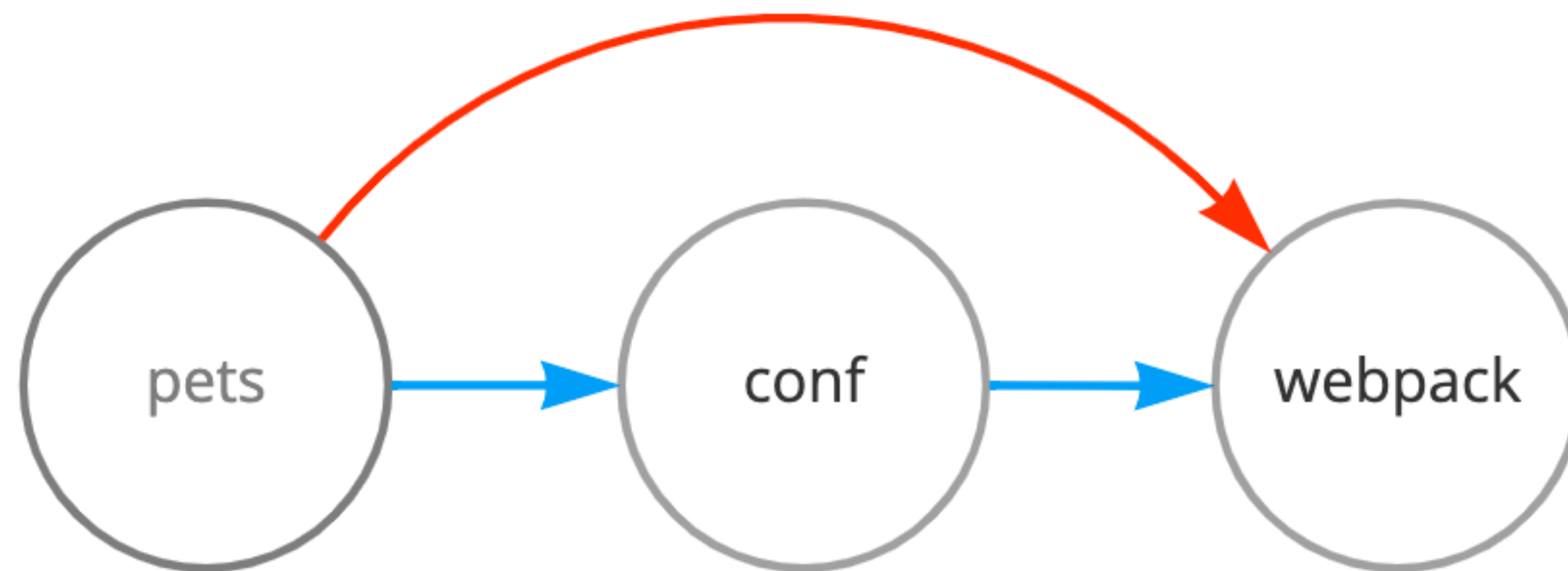


Нулевой пациент

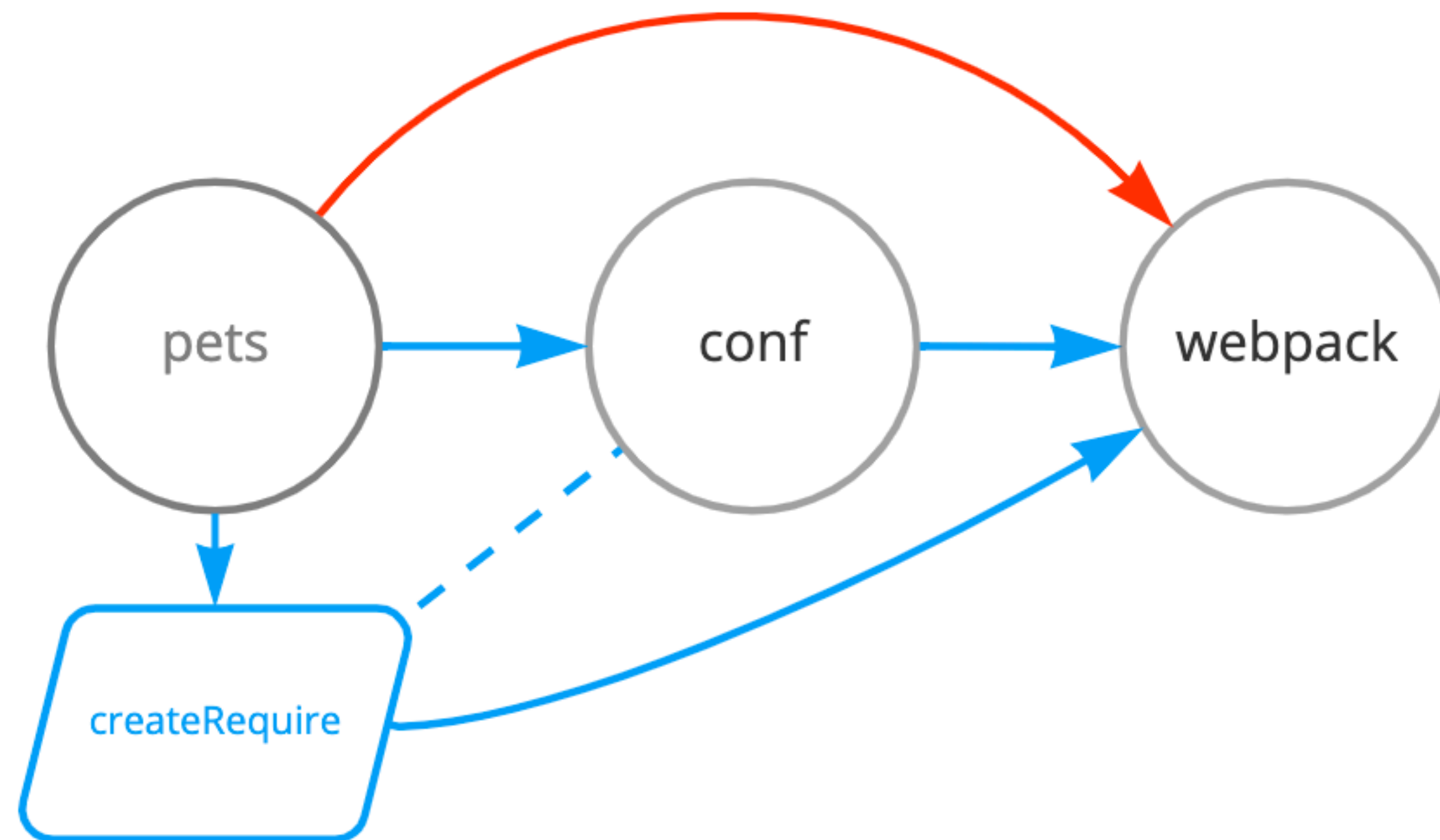


Глава III: Подъём

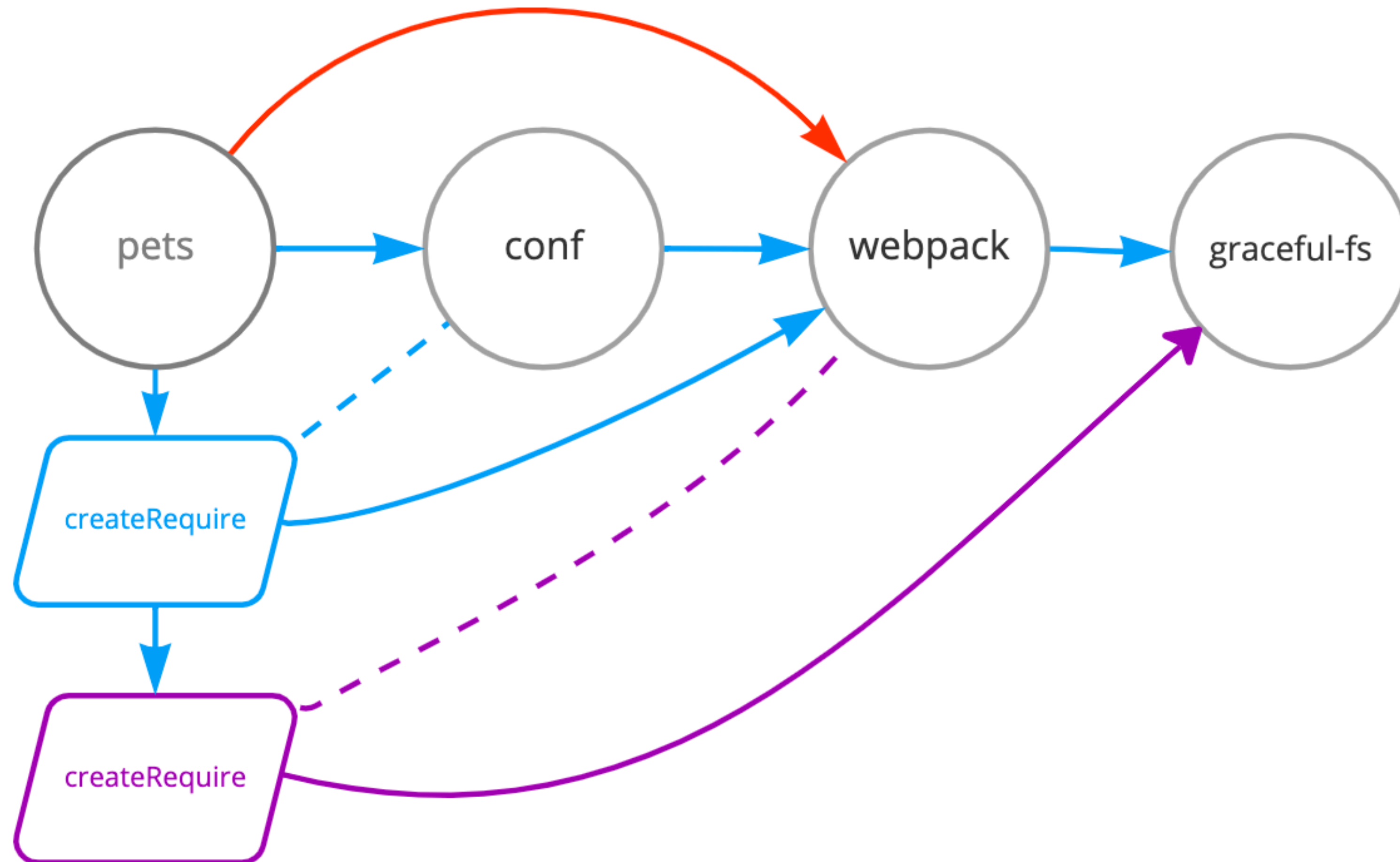
Транзитивная зависимость



createRequire



createRequire + createRequire



Берем контроль над модулями

```
const { createRequire } = require('module');  
  
module.exports = {  
  requireConf: createRequire(require.resolve('id: '@beef/conf/package.json')),  
};
```


Storybook beef (windows bin)

```
require('child_process')
  .execSync( command: `beef --source=@beef/react start-storybook -p 6006 ${args}`, options: {
    stdio: 'inherit',
    cwd: process.cwd(),
```

Избавляемся от .bin

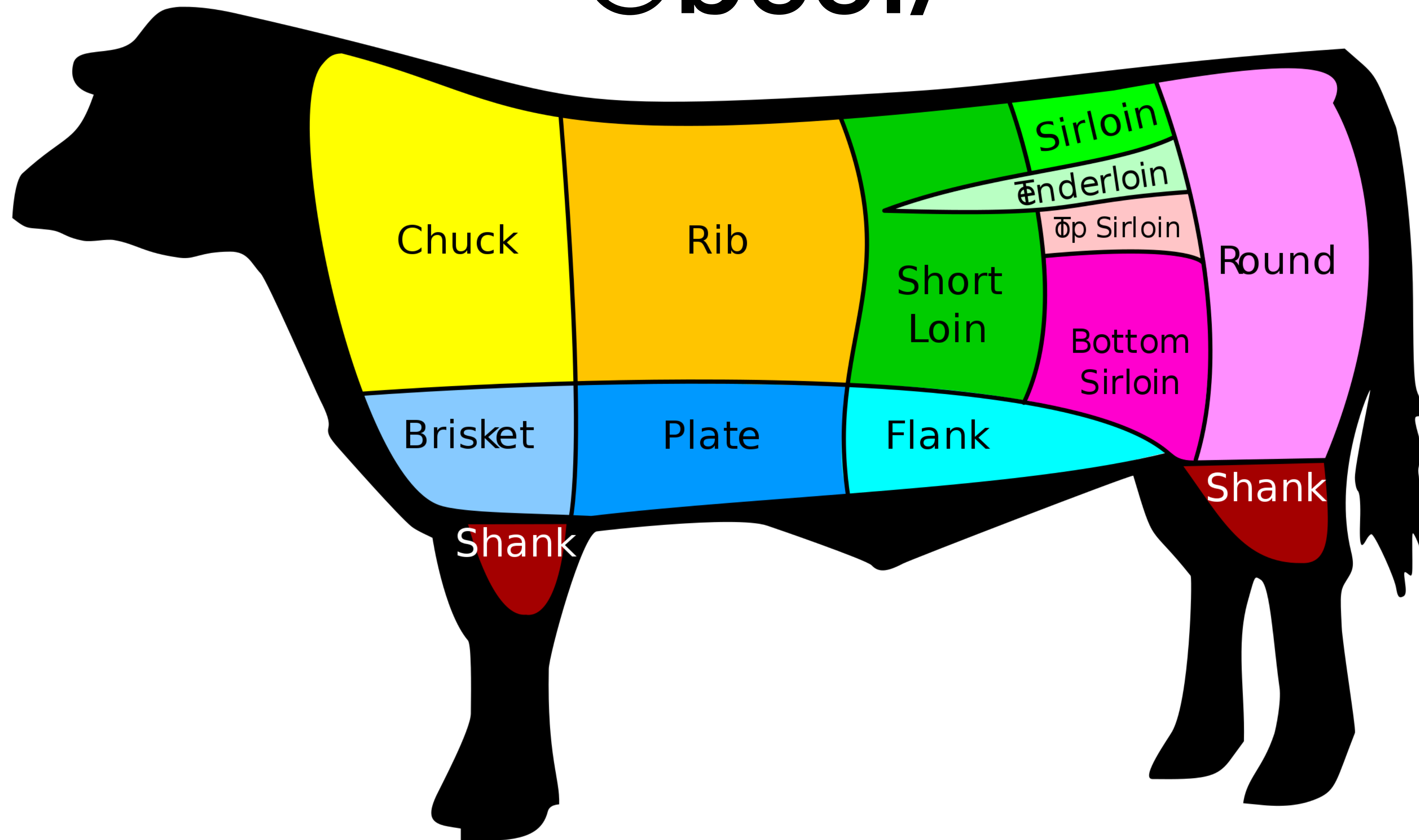
{	1	1	{
"extends": "./node_modules/.bin/beef-tsconfig.base",	⌋ 2	2	"extends": "@beef/conf/bin/beef-tsconfig.base",
"compilerOptions": {	3	3	"compilerOptions": {
"rootDir": "./",	4	4	"rootDir": "./",
"baseUrl": "./"	5	5	"baseUrl": "./"
},	6	6	},
"include": ["src", "./node_modules/.bin/beef-custom.d.ts"],	⌋ 7	7	"include": ["src", "./beef-custom.d.ts"],
"exclude": ["node_modules"]	8	8	"exclude": ["node_modules"]
}	9	9	}

Beeline + Future

=

BeeFuture

@beef/*



Глава IV:
Эпилог

Подведем итоги

- Легкость использования
- Возможность частичного переопределения
- Вызов через систему npm-script'ов

Это же CRA





Зачем мы начали этот путь



“Заимствуем” у CRA

- Глобальный CLI
- Корневой объект конфигурации
- Bin-контейнер

Плюсы и минусы

- + Единый центр конфигурации
- + Масштабируемость
- +/- Взрачивание FrontOps
- Увеличенная сложность поддержки

Рекомендации

- Нет транзитивным зависимостям
- Нет прямым путям к `/node_modules/`
- Vendor-зависимости - up to you



Рекомендации

- Нет транзитивным зависимостям
- Нет прямым путям к `/node_modules/`
- Vendor-зависимости - up to you
- Свой CRA vs CRA-extend (*cracko*)
- Проект vs **монорепозиторий** vs **распределенный-монорепозиторий**
- Исходить из целей



Спасибо за внимание!



Иван
Малюгин
Билайн



Вопросы и ответы



Иван
Малюгин

Билайн

