

JEST: Testing Framework

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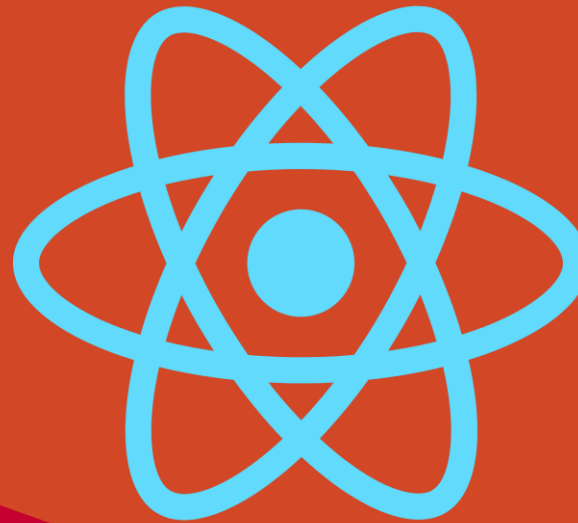
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Diego Ramírez Amandi



WHAT IS JEST?

Jest is a JavaScript testing framework that focus on simplicity



HOW TO USE JEST?

1

- yarn add --dev jest
- npm install --save-dev jest

2

```
{  
  "scripts": {  
    "test": "jest"  
  }  
}
```

3

- yarn test
- npm run test



Jest Functionalities

- Testing asynchronous code

- Setup and Teardown

- Matchers `expect(2+2).toBe(4);`

- Mock functions

- Snapshot Testing

- toBe
- toEqual
- not.toBe
- toBeNull
- ToBeDefine
- toBeTruthy
- toBeFalsy
- toMatch
- toContain

```
<a className="normal"
href="http://www.facebook.com"
onMouseEnter=[[Function]]
onMouseLeave=[[Function]] >
Facebook </a>
```

```
const tree = renderer.create(<Link page="http://www.facebook.com"> Facebook</Link>) .toJSON();
expect(tree).toMatchSnapshot();
```



STAKEHOLDERS



STAKEHOLDERS

- Final Users
- Open-Source Community
- Facebook
- Dev Team
- Sponsors

Contributors

1

Helping solving issues on Jest open github repository

2

Users giving money to the dev team through donations or promoting to Backer role.

3

Sponsors

Donation

Contribuye de manera única o recurrente para ayudar a este colectivo.

Contribute

Backer

Become a backer for \$3.00 per month and help us sustain our activities!

STARTS AT
\$3 USD / month

Contribute

Sponsor

Become a sponsor for \$100.00 per month and help us sustain our activities!

STARTS AT
\$100 USD / month

Contribute

 open collective



Main Focus of Interest

🕒 4,688 commits

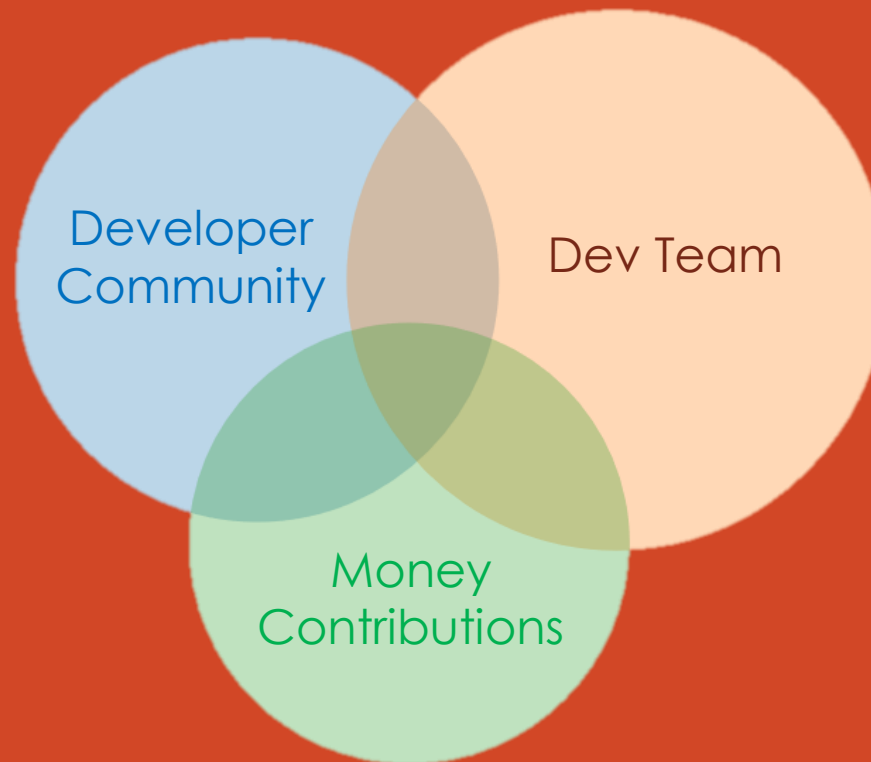
🌿 6 branches

📦 0 packages

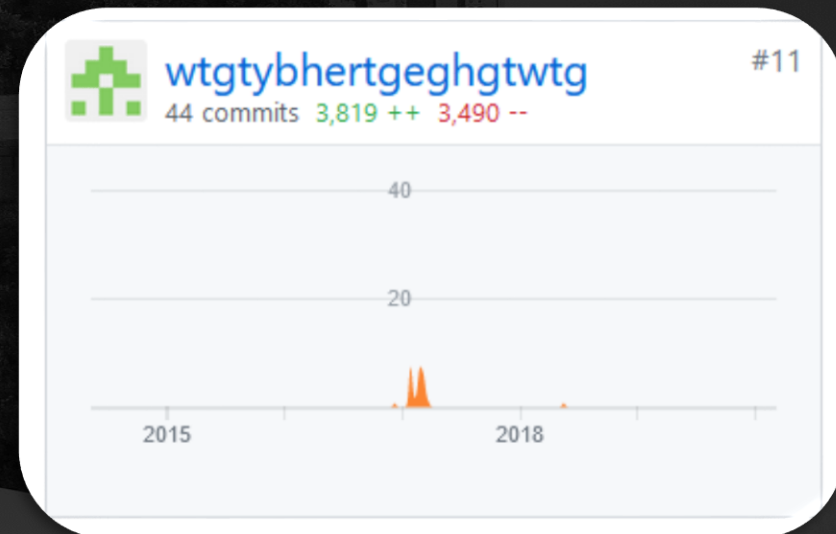
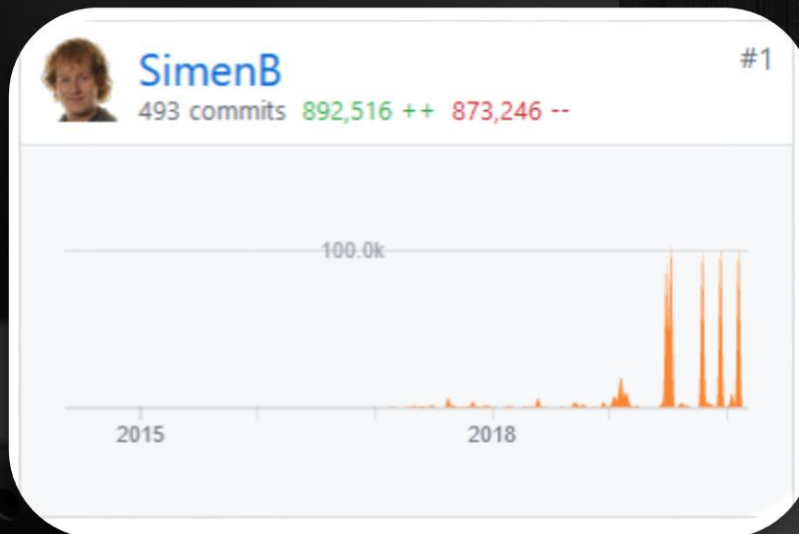
🏷️ 165 releases

👤 1,049 contributors

🏛️ MIT



ANYONE CAN CONTRIBUTE TO THE PROJECT



ANYONE CAN CONTRIBUTE TO THE PROJECT



ANYONE CAN CONTRIBUTE TO THE PROJECT



EVEN YOU



QUALITY ATTRIBUTES



QUALITY ATTRIBUTES

1

PERFORMANCE EFFICIENCY

We want good performance for our tests

2

MAINTAINABILITY

```
✓ test('Render Map is Correct',()=>{  
  const main = mount(<MainPage/>);  
  
  expect(main.find('MapContainer')).toBeDefined();  
});
```

3

RELIABILITY

Tests must be trustable



JEST ARCHITECTURE



How is the code organized?

facebook / jest

Sponsor Used by 1.7m Watch 521 Star 30.1k Fork 4.2k

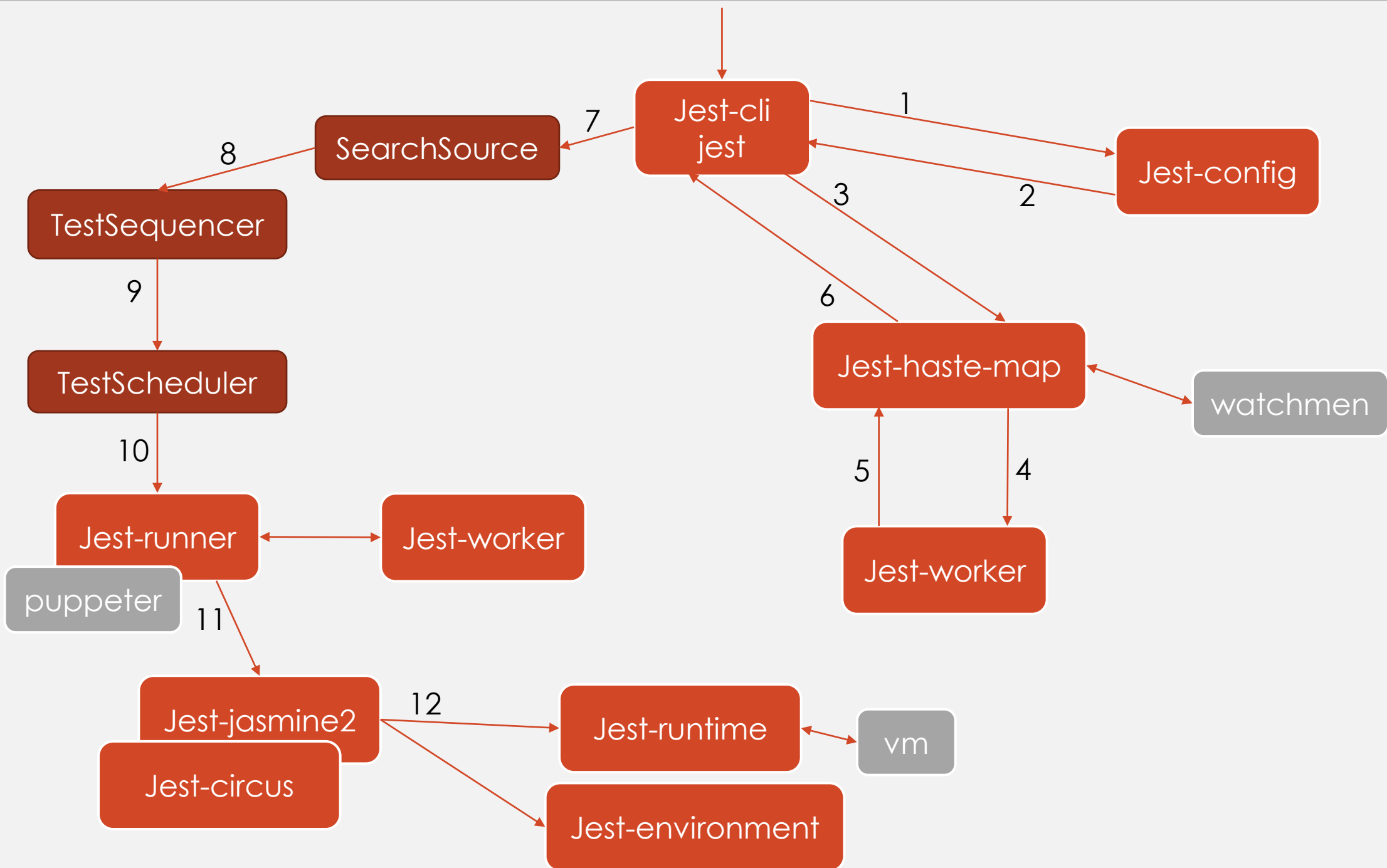
<> Code Issues 838 Pull requests 119 Actions Projects 0 Wiki Security Insights

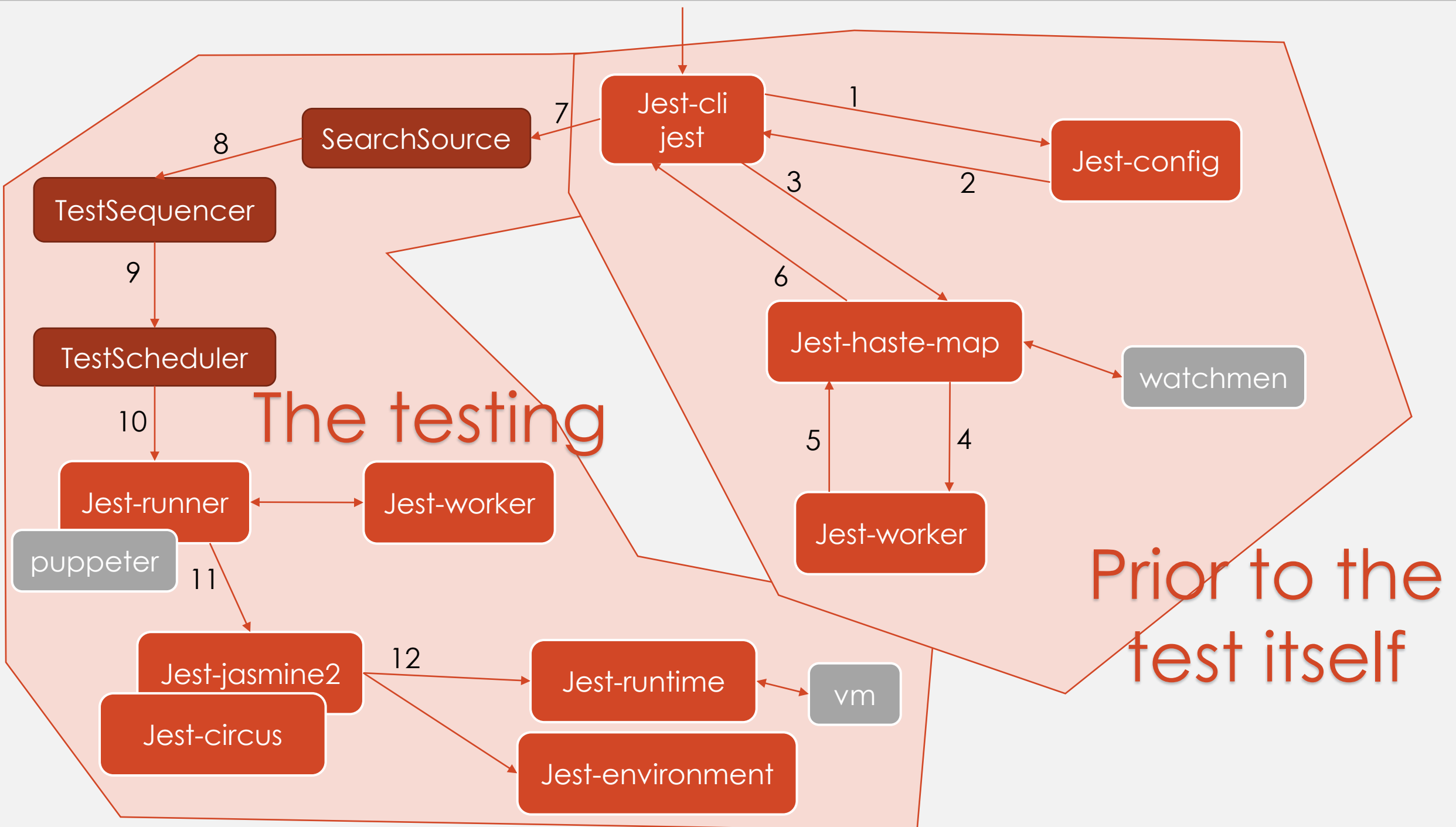
Branch: master jest / packages / Create new file Upload files Find file History

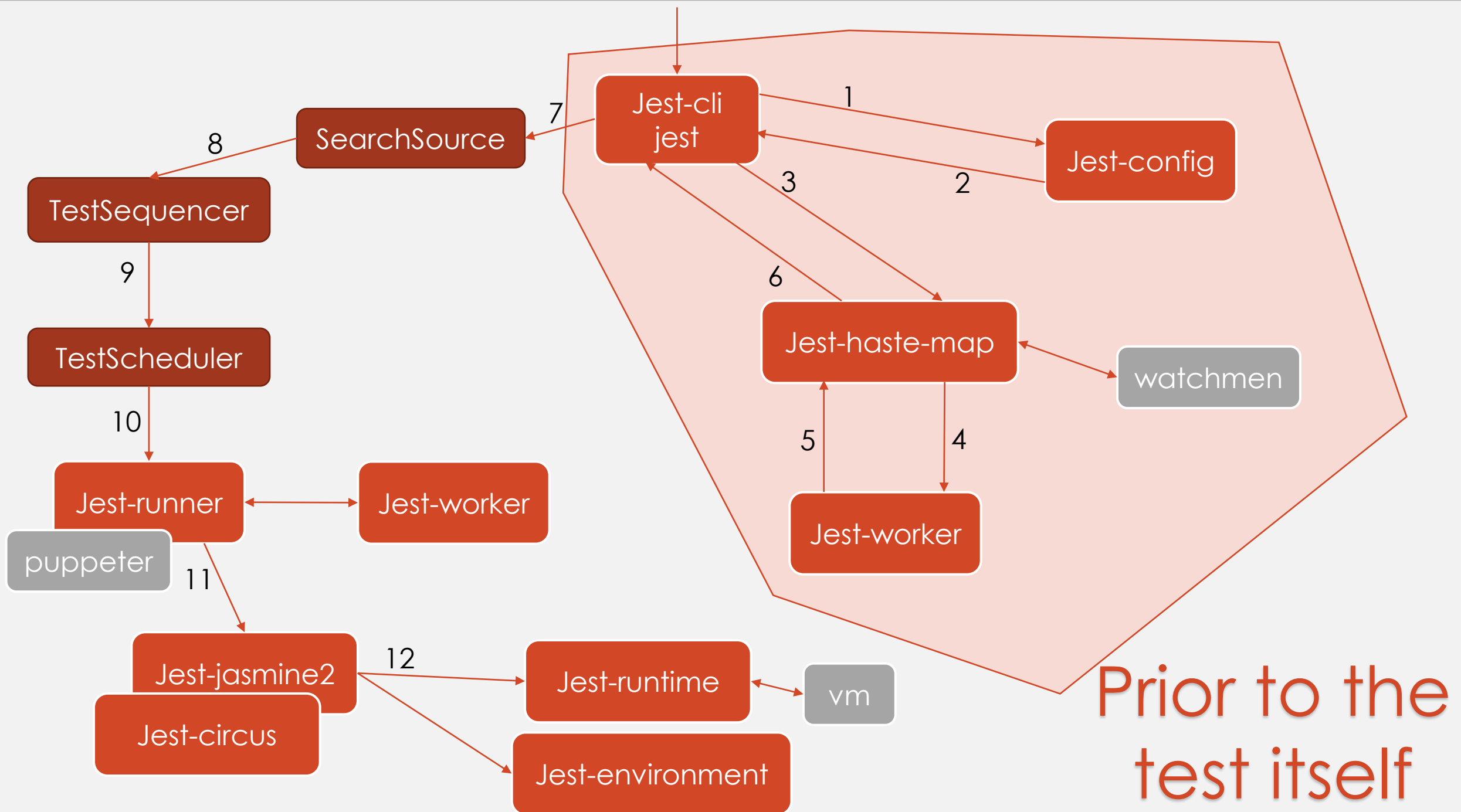
SimenB fix: update yargs to fix CLI flag overriding (#9519) Latest commit e3aa106 18 days ago

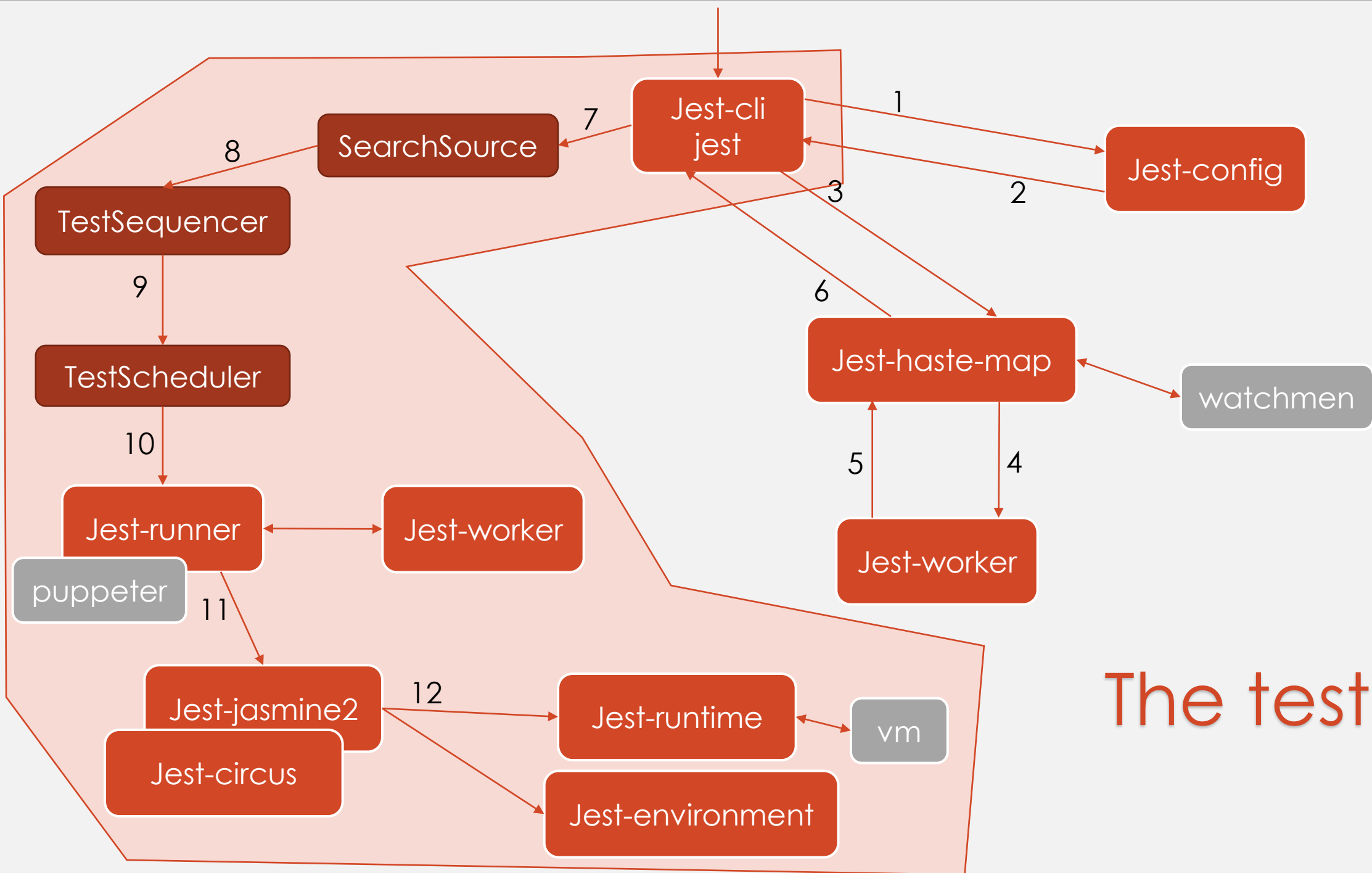
..

babel-jest	Release 25.1.0	2 months ago
babel-plugin-jest-hoist	chore: upgrade dependencies and land changes for yarn berry (#9545)	last month
babel-preset-jest	Release 25.1.0	2 months ago
diff-sequences	chore: upgrade dependencies and land changes for yarn berry (#9545)	last month
eslint-config-fb-strict	Release 25.1.0	2 months ago
expect	fix: `toEqual` throws error when comparing readonly properties (#9575)	last month
jest-changed-files	Release 25.1.0	2 months ago
jest-circus	chore: type all exported functions (#9548)	last month
jest-cli	fix: update yargs to fix CLI flag overriding (#9519)	18 days ago
jest-config	fix(jest-types): make `ConfigGlobal` an interface (#9570)	21 days ago
jest-console	chore: upgrade dependencies and land changes for yarn berry (#9545)	last month
jest-core	fix: verify `rootDir` and all `roots` are directories (#9569)	last month
jest-diff	chore: upgrade dependencies and land changes for yarn berry (#9545)	last month

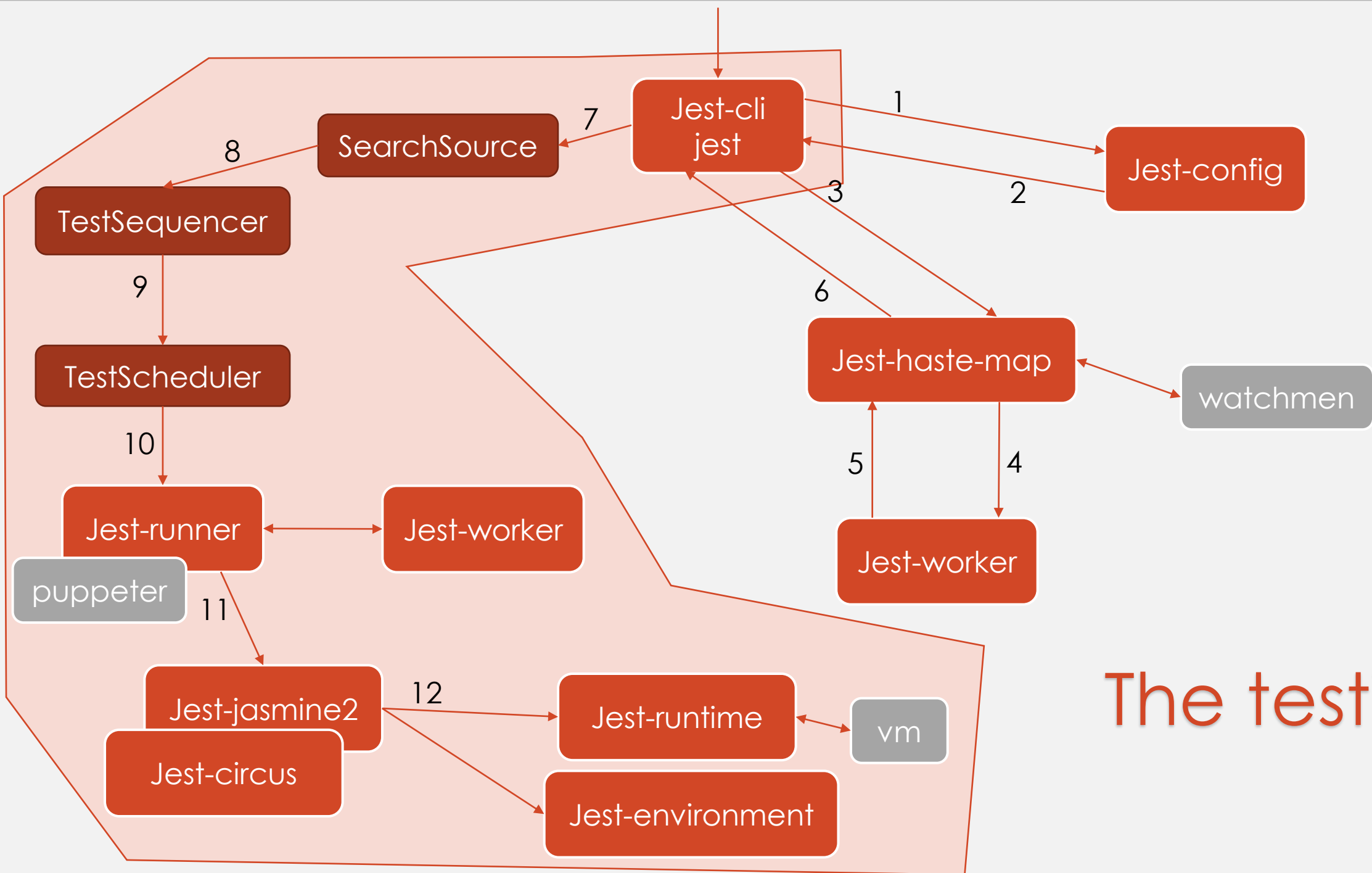




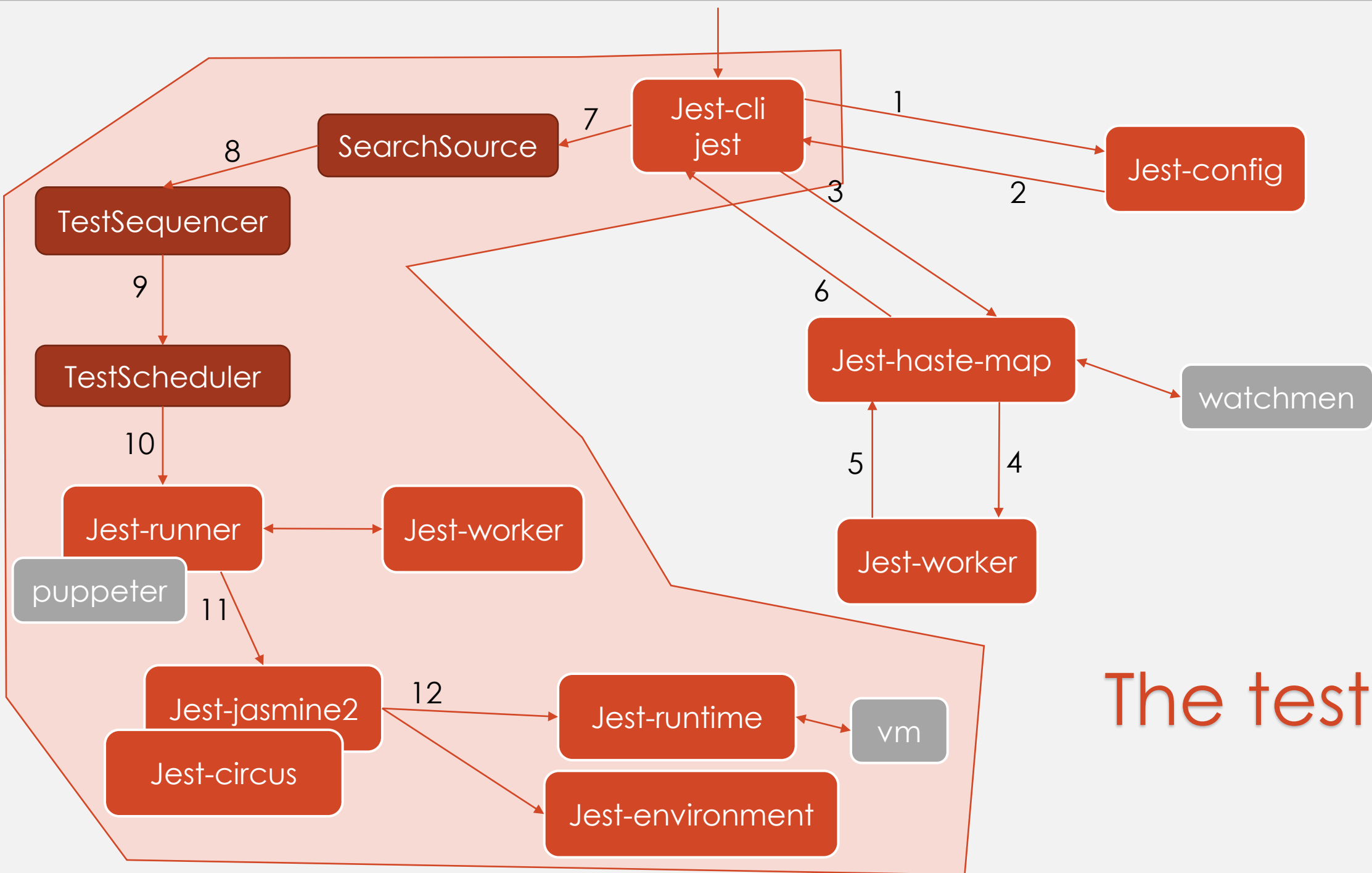




The testing



The testing

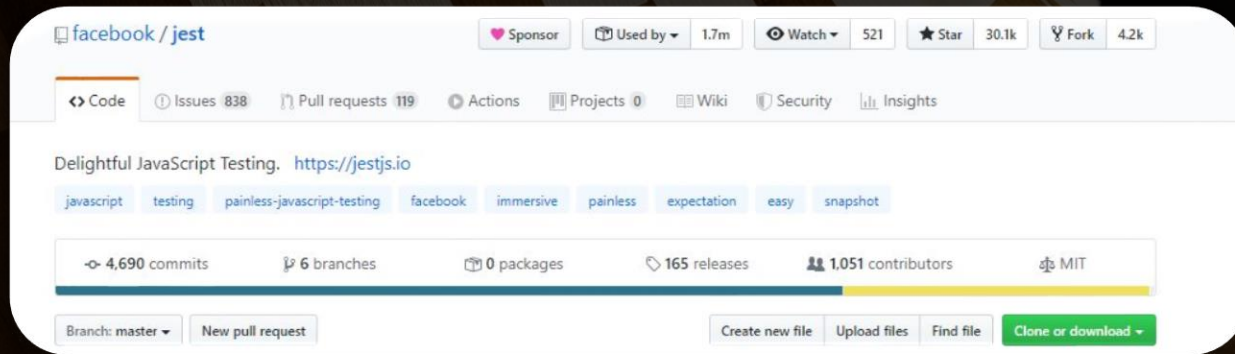


The testing

CONTRIBUTE



How to contribute



Take a look to:

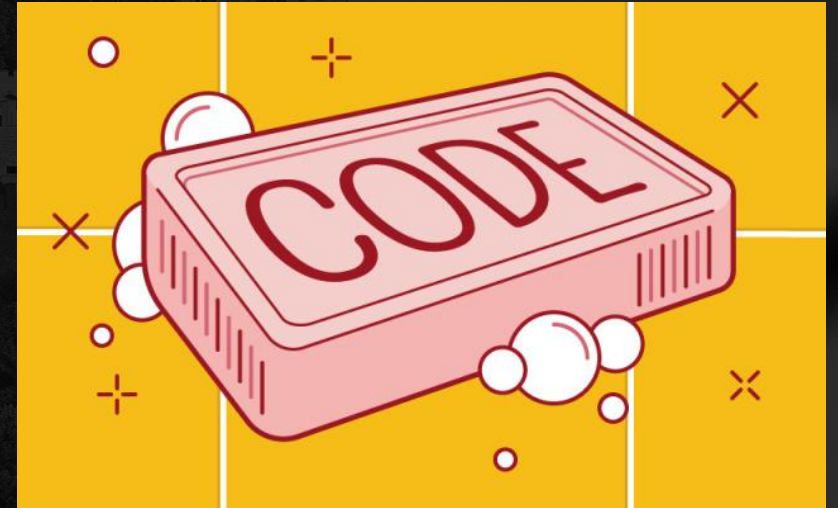
- Facebook Open Source CoC
- Contributing guide of Jest



Other considerations

Code conventions:

- 2 spaces for indentation
- 80 char line length
- ' over "
- Use TypeScript
- ...



COMPILE JEST



How do we compile Jest?

Install:

- Yarn
- Python (2.7)
- Node.js (12.x)

Run

```
PS D:\Program Files\GitHub\jest> yarn install
```

```
PS D:\Program Files\GitHub\jest> yarn run build
```

OR

```
PS D:\Program Files\GitHub\jest> yarn test
```

```
yarn link jest-cli
```


```
yarn unlink jest-cli
```



JEST COMMUNITY



Jest Community and extensions



Jest Community

Community repos for Jest related projects

<https://github.com/facebook/jest>


Repositories 17

Packages

People 11


Projects

Pinned repositories

**vscode-jest**


The optimal flow for Jest based testing in VS Code

TypeScript ★ 1.7k 🍴 118

**snapshot-diff**


Diffing snapshot utility for Jest

JavaScript ★ 437 🍴 31

**jest-runner-eslint**


An ESLint runner for Jest

JavaScript ★ 363 🍴 39

**jest-snapshots-svg**


Take a React component tree, and render it into an SVG.

TypeScript ★ 208 🍴 20

**jest-extended**

Additional Jest matchers 📄 🍴

JavaScript ★ 1.1k 🍴 135

**eslint-plugin-jest**

ESLint plugin for Jest

TypeScript ★ 511 🍴 100

Visual Studio Code extension

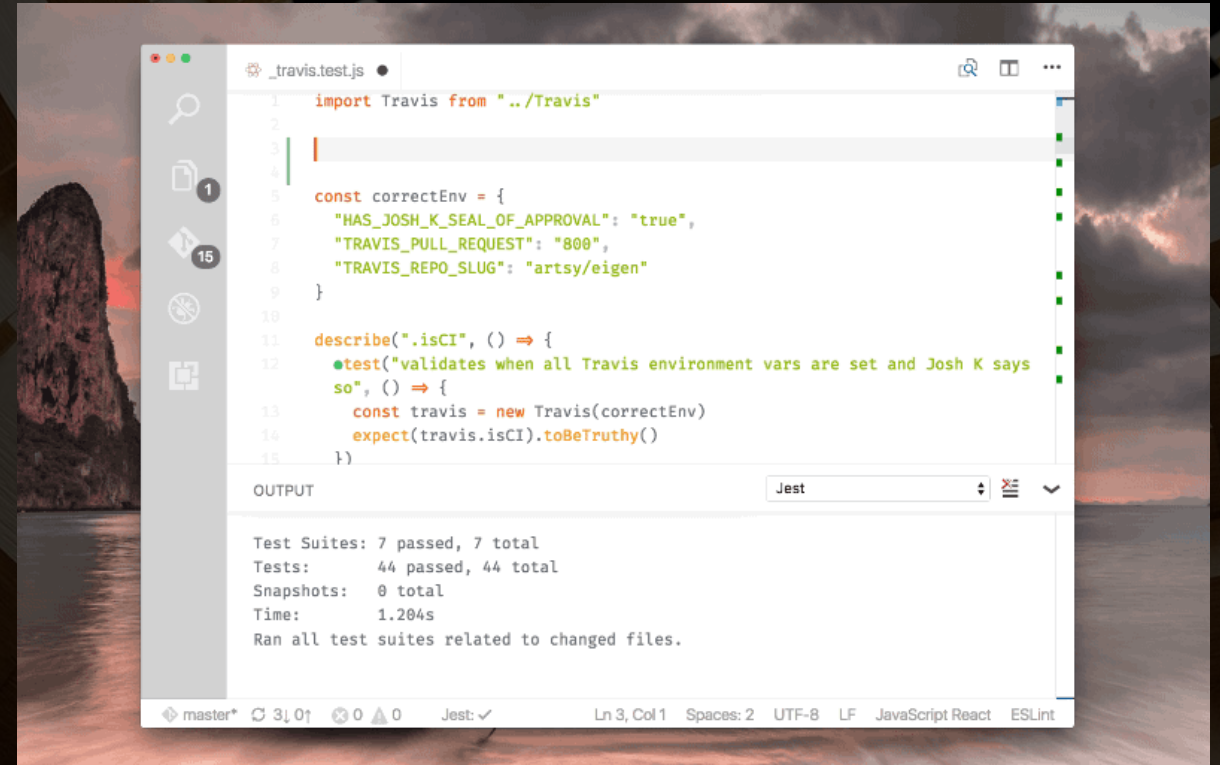
Features

Starts Jest automatically

Show individual fail / passes inline

Highlights the errors next to the expect functions

Help debug jest tests in vscode



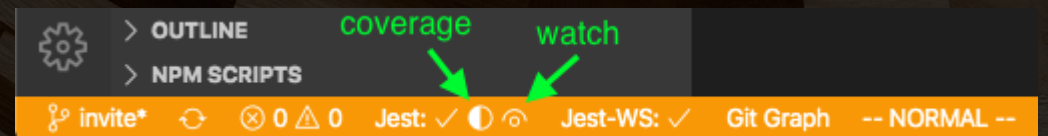
The screenshot shows the Visual Studio Code editor with a file named `_travis.test.js` open. The code defines a `Travis` class and a test suite. The test suite includes a `describe` block for `isCI` with a `test` function that checks if `travis.isCI` is truthy. The output panel at the bottom shows the test results: 7 test suites passed, 7 total; 44 tests passed, 44 total; 0 snapshots; 1.204s time; and a message to run all test suites related to changed files.

```
1 import Travis from "../Travis"
2
3
4
5 const correctEnv = {
6   "HAS_JOSH_K_SEAL_OF_APPROVAL": "true",
7   "TRAVIS_PULL_REQUEST": "800",
8   "TRAVIS_REPO_SLUG": "artsy/eigen"
9 }
10
11 describe(".isCI", () => {
12   test("validates when all Travis environment vars are set and Josh K says so", () => {
13     const travis = new Travis(correctEnv)
14     expect(travis.isCI).toBeTruthy()
15   })
16 })
```

OUTPUT

Jest

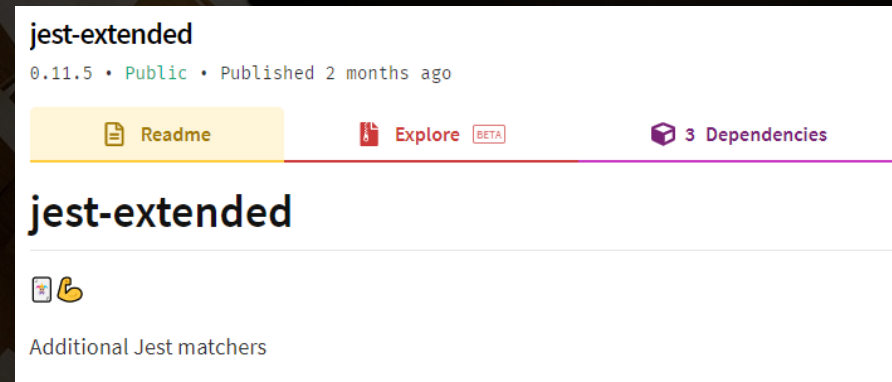
Test Suites: 7 passed, 7 total
Tests: 44 passed, 44 total
Snapshots: 0 total
Time: 1.204s
Ran all test suites related to changed files.



Jest-extended

Provides new matchers (assertions)
to ease testing

```
npm install --save-dev jest-extended
```



The screenshot shows the npm package page for 'jest-extended'. At the top, the package name 'jest-extended' is displayed in bold, followed by the version '0.11.5', the status 'Public', and the publication date 'Published 2 months ago'. Below this, there are three buttons: 'Readme' (with a document icon), 'Explore' (with a book icon and a 'BETA' badge), and '3 Dependencies' (with a cube icon). The package name 'jest-extended' is repeated below the buttons. Underneath, there is a small icon of a book and a thumbs-up emoji. At the bottom, the text 'Additional Jest matchers' is visible.

CONCLUSION

