```
PASS app/app/components/DocumentTab/TabContent.spec.js (1011 MB heap size)
PASS app/app/routes/NetworkGrowth/Connects/__tests__/TrialMessage.spec.js (1014 MB heap size)
PASS app/app/routes/NfeList/Partials/Actions/CollapsedFilters/Actions/Clear.spec.jsx (1028 MB heap size)
PASS app/app/routes/CompaniesList/Partials/__tests__/AccountantEmpty.spec.js (1036 MB heap size)
PASS app/app/components/DocumentTab/TabGroup.spec.js (1039 MB heap size)
PASS app/app/routes/CompaniesList/Partials/Modals/__tests__/AddClient.spec.js (1048 MB heap size)
PASS app/app/routes/Ctf/_common/components/CtfScreen/index.spec.js (1054 MB heap size)
PASS app/app/components/ConsultFeedback/__tests__/Loading.spec.js (1062 MB heap size)
PASS app/app/routes/Ctf/Supply/Partials/Actions.spec.js (1073 MB heap size)
PASS app/app/routes/ShoppingCart/_common/Partials/__tests__/Enterprise.spec.js (1086 MB heap size)
PASS app/app/routes/CteList/components/CompanyAndCalendar.spec.js (1093 MB heap size)
PASS app/app/routes/Dashboard/components/Data/StyledRow.spec.js (1100 MB heap size)
PASS app/app/routes/Ctf/CertificatesList/Partials/Companies.spec.js (1109 MB heap size)
PASS app/app/routes/PlusSearchNfe/index.spec.js (1130 MB heap size)
PASS app/app/routes/Ctf/AcceptTerms/Partials/AcceptButton.spec.js (899 MB heap size)
PASS app/app/routes/PlusSearchNfe/reducers.spec.js (914 MB heap size)
PASS app/app/routes/Ctf/AcceptTerms/store/companies.spec.js (918 MB heap size)
PASS app/app/routes/Dashboard/components/Label.spec.js (922 MB heap size)
PASS components/atoms/Form/CurrencyV2.spec.js (936 MB heap size)
PASS app/app/components/Navbar/__tests__/Navbar.spec.js (944 MB heap size)
PASS components/molecules/QuickBar/__tests__/Button.spec.js (952 MB heap size)
PASS app/app/components/AppMenuItem/models.spec.js (957 MB heap size)
PASS app/app/routes/Ctf/Supply/Partials/Loading.spec.js (960 MB heap size)
PASS components/organisms/ABTestSixpack/components/__tests__/Variant.spec.js (963 MB heap size)
PASS app/app/routes/Ctf/CertificatesList/Partials/Actions.spec.js (971 MB heap size)
PASS app/app/routes/Api/_common/components/__tests__/Tabs.spec.js (980 MB heap size)
PASS app/app/routes/KeysConference/components/CompaniesAndKeys/index.spec.js (992 MB heap size)
PASS components/molecules/QuickBar/__tests__/Item.spec.js (1014 MB heap size)
PASS app/app/routes/Ctf/Error/Partials/Header.spec.js (1025 MB heap size)
PASS app/app/routes/Ctf/AcceptTerms/Partials/Header.spec.js (1024 MB heap size)
PASS app/app/routes/Ctf/_common/components/CtfScreen/Logos.spec.js (1032 MB heap size)
PASS app/app/routes/Ctf/_common/reducers/certificateNotification/actions.spec.js (1045 MB heap size)
PASS app/app/core/utils/index.spec.js (1048 MB heap size)
PASS components/atoms/Tag/__tests__/Tag.spec.js (1062 MB heap size)
PASS app/app/routes/PlusSearchNfe/handle.spec.js (1070 MB heap size)
PASS app/app/routes/Api/_common/reducers/__tests__/companies.spec.js (1074 MB heap iz

Test Suites: 10 skipped, 669 passed, 669 of 679 total
Tests:       131 skipped, 3243 passed, 3374 total
Snapshots:   1247 passed, 1247 total
Time:        259.094s
Ran all test suites.
```

Testing React Apps

Rafael Mariano (**Olinda**)

About me

Rafael Mariano

Tech Lead **Arquivei**

@toruticas

@toruticas

@rafael

Who am I?

- Everybody calls me Olinda
- Technical Leader of Frontend
- Janitorial manager of Brazil
- Terraplanist
- Aspiring historian

About me

Rafael Mariano

Tech Lead **Arquivei**

@toruticas

@toruticas

@rafael

Challenges

- Build a design system
- Grow a frontend team
- **Enhance more quality**
- Improve CI/CD
- Spread javascript universal,

  especially **NextJS**

“Revolucionar a utilização de documentos fiscais através de pessoas e tecnologia, transformando burocracia em oportunidade.”

Summary

- People to follow
- Fundamentals
- Kinds of tests
- Static tests
- Performance tests
- Automation tools
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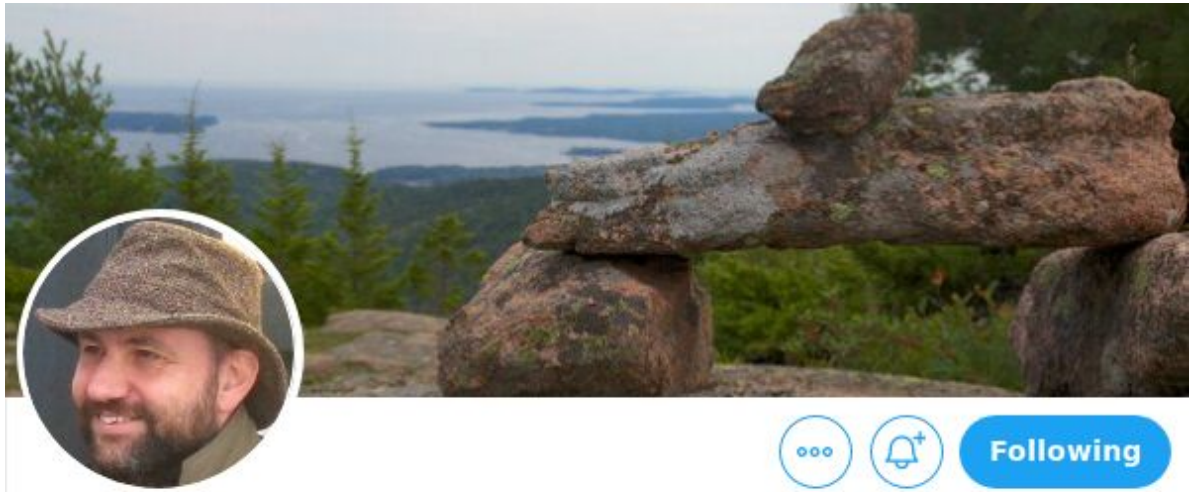

Following
Martin Fowler
@martinfowler
Author, speaker, and general loud mouth on Software Development. Works for ThoughtWorks. Also hikes, watches theater, and plays modern board games
Boston
martinfowler.com
Joined October 2008

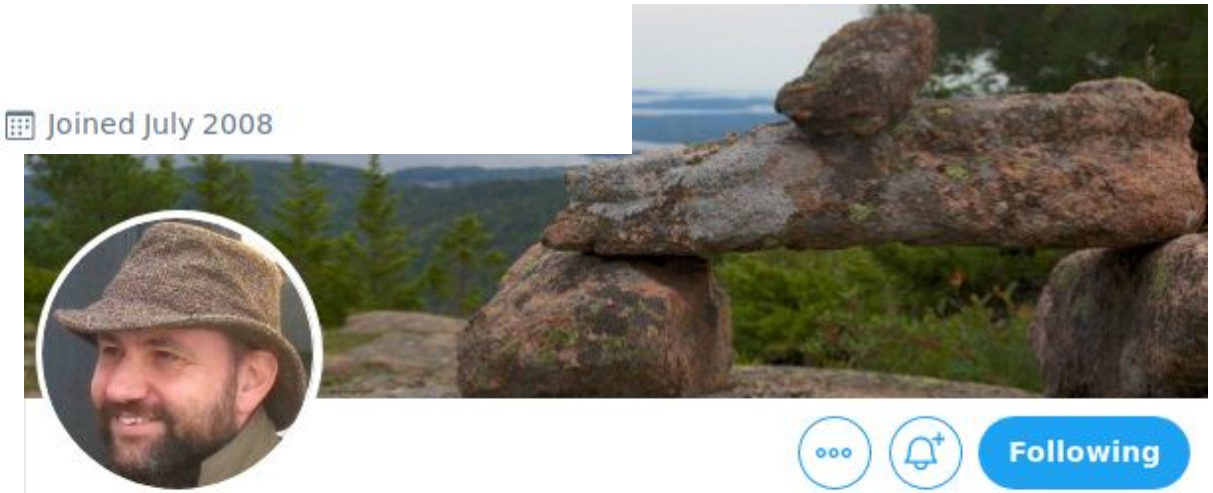
Following

Guillermo ▲

@rauchg

@zeithq

San Francisco, CA rauchg.com Joined July 2008



Following

Martin Fowler

@martinfowler

Author, speaker, and general loud mouth on Software Development. Works for ThoughtWorks. Also hikes, watches theater, and plays modern board games

Boston martinfowler.com Joined October 2008

Following

Guillermo ▲
@rauchg

@zeithq

San Francisco, CA rauchg.com Joined July 2008

Following

Kent C. Dodds
@kentcdodds

Making people's lives better with software · Husband, Father, Latter-day Saint, Teacher, OSS, GDE · testingjavascript.com @eggheadio @FrontendMasters · #JS

Pleasant Grove, UT kentcdodds.com Born 1988
Joined October 2011

Following

Martin Fowler
@martinfowler

Author, speaker, and general loud mouth on Software Development. Works for ThoughtWorks. Also hikes, watches theater, and plays modern board games

Boston martinfowler.com Joined October 2008

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9/9

0800 Arctan started

1000 " stopped - arctan ✓ { 1.2700 9.037 847 025
9.037 846 995 correct

13" sec (032) MP - MC ~~1.982647000~~ ~~2.130476415 (-3)~~ 4.615925059(-2)

(033) PRO 2 2.130476415

correct 2.130676415

Relays 6-2 in 033 failed special speed test

In Relay " 10,000 test.

Relays changed

Relay 2145

Relay 3370

1100 Started Cosine Tape (Sine check)

1525 Started Mult + Adder Test.

1545 Relay #70 Panel F (moth) in relay.

First actual case of bug being found.

~~1[illegible]~~ 1630 Arctangent started.

1700 closed down.

https://en.wikipedia.org/wiki/Software_bug

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Kinds *of tests*

Integration Testing

User Acceptance Testing

Unit Testing

E2E Testing

Security Testing

Monkey Testing

i18n Testing

***Kinds** of tests*

Smoke Testing

Stress Testing

A/B Testing

Usability Testing

Performance Testing

a11y Testing

Regression Testing

https://reactjs.org/

***Kinds** of tests*

Integration Testing

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ESLint

```
vagrant@precise32:~$ eslint uploader.js

uploader.js
   1:13  error  'angular' is not defined              no-undef
   1:28  error  Strings must use doublequote          quotes
   7:15  error  Strings must use doublequote          quotes
   7:28  error  Strings must use doublequote          quotes
   7:34  error  Missing "use strict" statement        strict
   9:20  error  Expected '===' and instead saw '=='   eqeqeq
  10:17  error  Expected '===' and instead saw '=='   eqeqeq
  14:20  error  Strings must use doublequote          quotes
  27:16  error  'FormData' is not defined             no-undef
  34:17  error  'XMLHttpRequest' is not defined       no-undef
  35:1   error  Trailing spaces not allowed           no-trailing-spaces
  36:12  error  Strings must use doublequote          quotes
  45:1   error  Unexpected blank line at end of file  eol-last

â 13 problems

vagrant@precise32:~$
```

```
vagrant@precise32:~$ eslint uploader.js

uploader.js
   1:13  error  'angular' is not defined              no-undef
   1:28  error  Strings must use doublequote          quotes
   7:15  error  Strings must use doublequote          quotes
   7:28  error  Strings must use doublequote          quotes
   7:34  error  Missing "use strict" statement        strict
   9:20  error  Expected '===' and instead saw '=='   eqeqeq
  10:17  error  Expected '===' and instead saw '=='   eqeqeq
  14:20  error  Strings must use doublequote          quotes
  27:16  error  'FormData' is not defined            no-undef
  34:17  error  'XMLHttpRequest' is not defined      no-undef
  35:1   error  Trailing spaces not allowed          no-trailing-spaces
  36:12  error  Strings must use doublequote          quotes
  45:1   error  Unexpected blank line at end of file eol-last

â 13 problems

vagrant@precise32:~$
```

```
/// <reference types="node" />
import { EventEmitter } from 'events';
import { PubSubEngine } from './pubsub-engine';
export declare class PubSub implements PubSubEngine {
    protected ee: EventEmitter;
    private subscriptions;
    private subIdCounter;
    constructor();
    publish(triggerName: string, payload: any): boolean;
    subscribe(triggerName: string, onMessage: Function): Promise<number>;
    unsubscribe(subId: number): void;
    asyncIterator<T>(triggers: string | string[]): AsyncIterator<T>;
}
```

[ts] Cannot find name 'AsyncIterator'.

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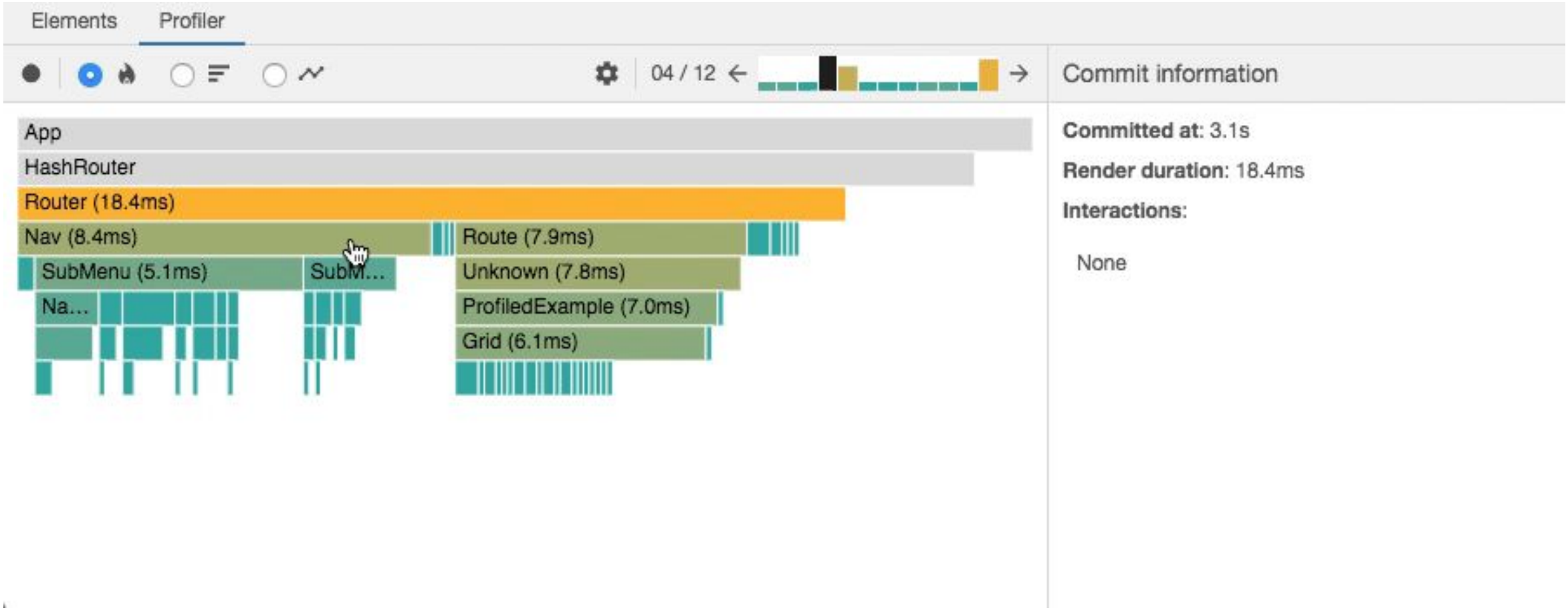

https://pt-br.reactjs.org/blog/2018/09/10/introducing-the-react-profiler.html

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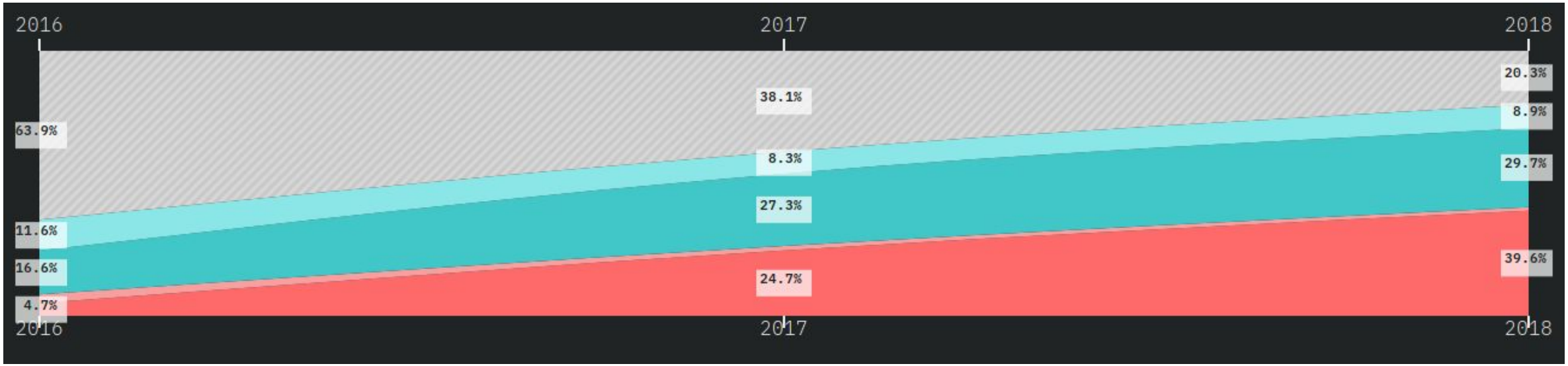
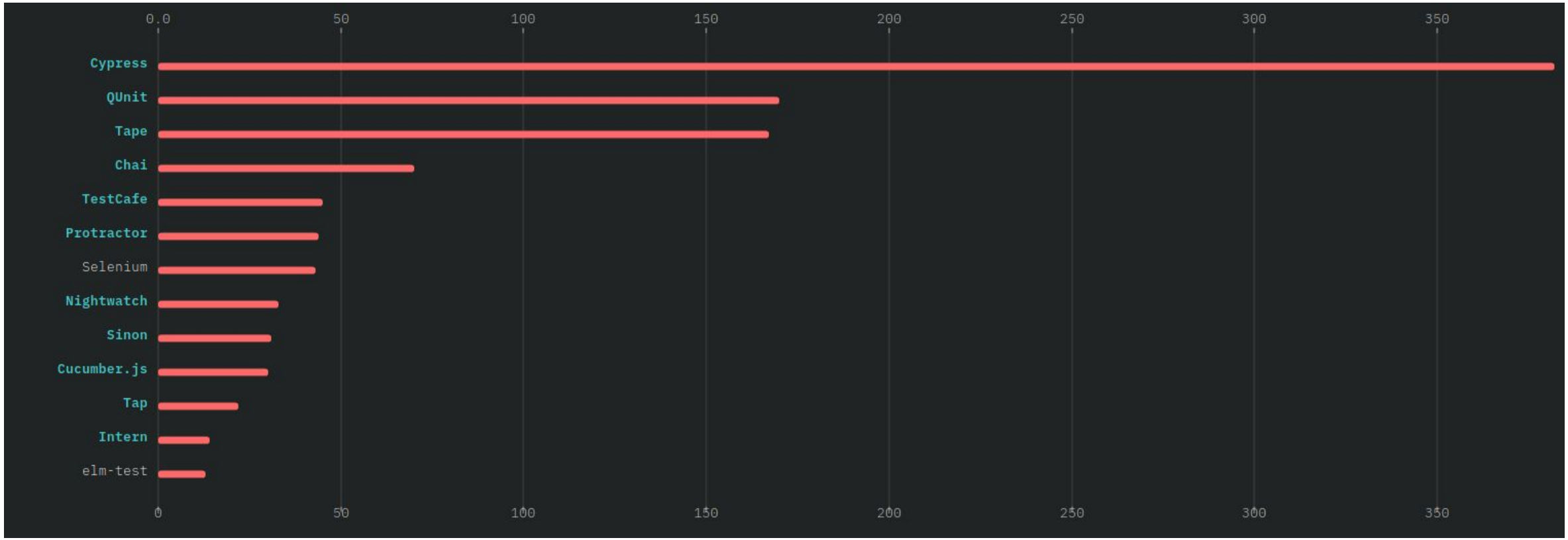
https://2018.stateofjs.com/testing/overview/



https://2018.stateofjs.com/testing/jest/



https://2018.stateofjs.com/testing/other-libraries/

```
test('title', () => {
  // arrange

  // act

  // assert
});
```

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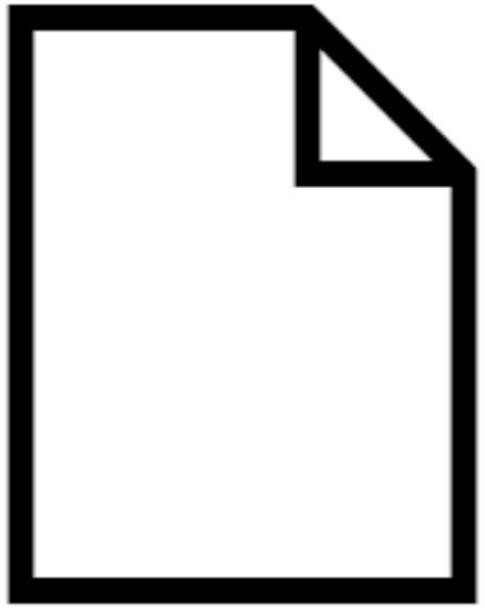
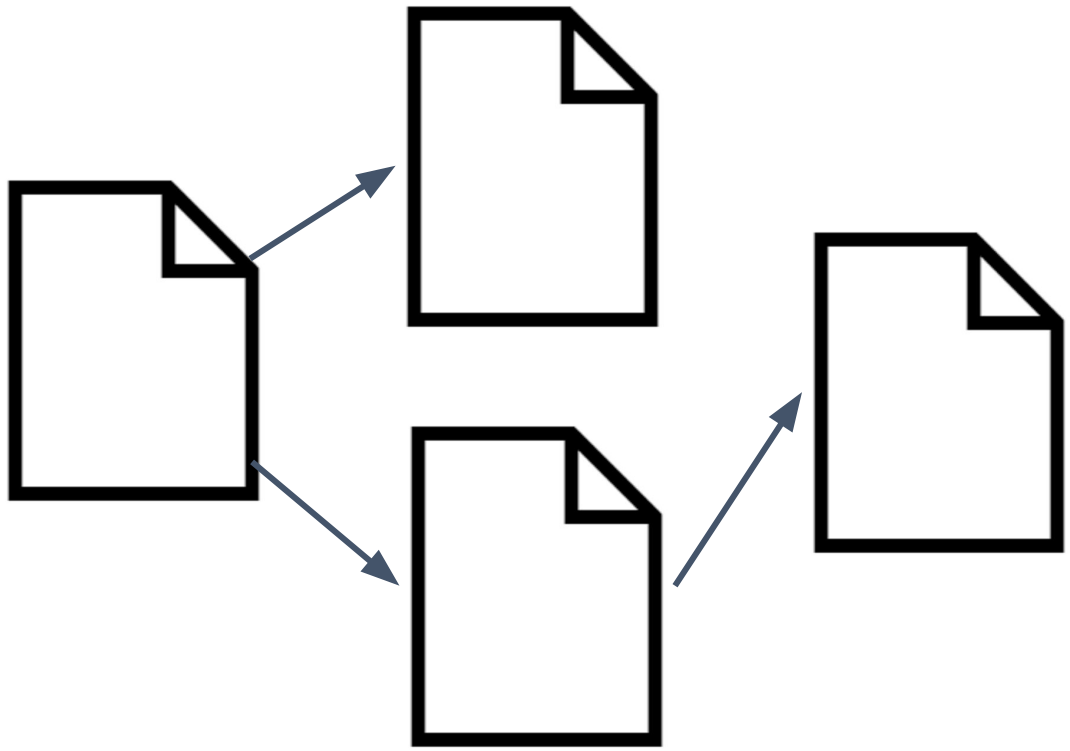
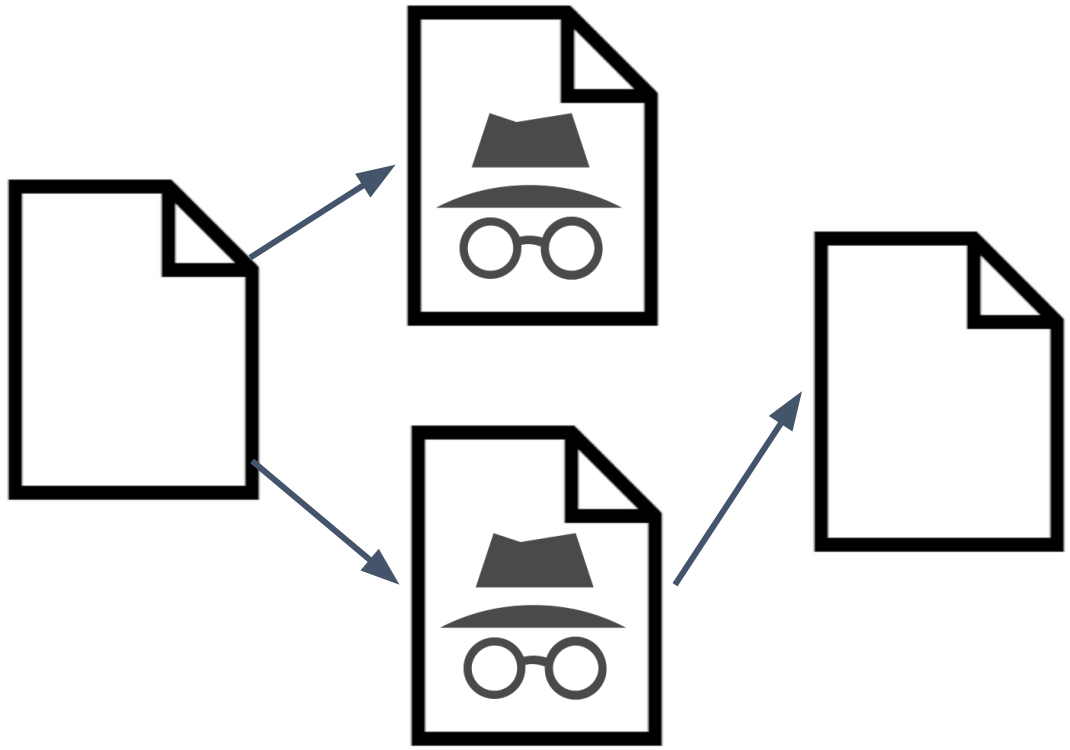
Unit tests



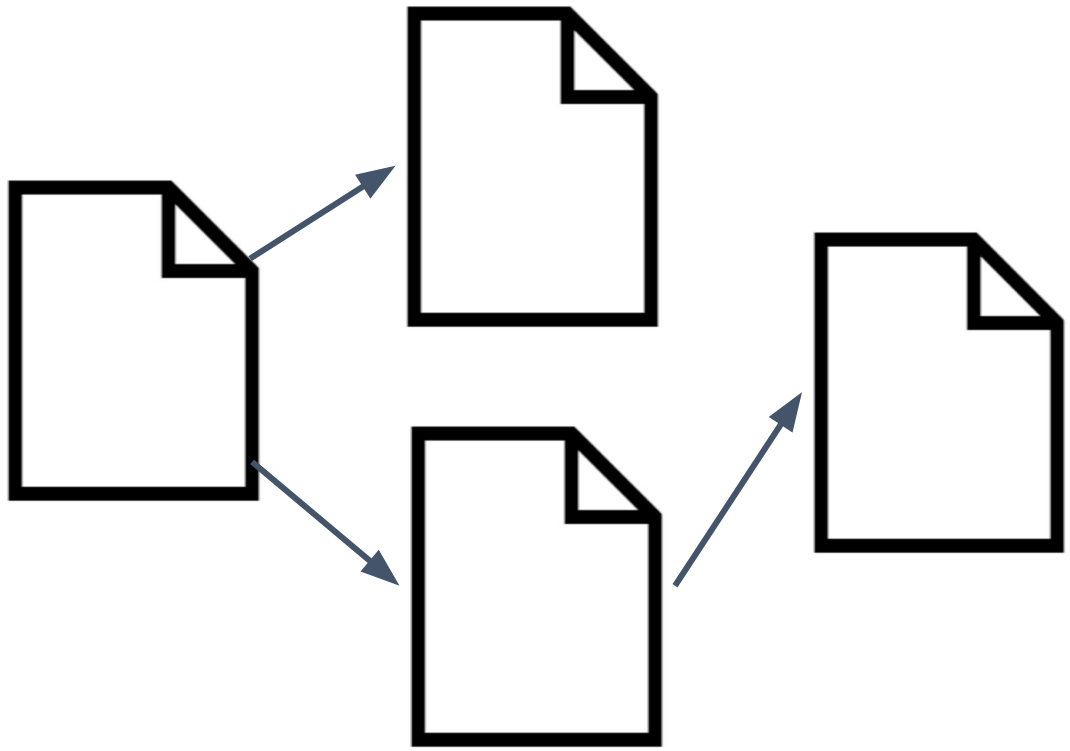
Unit tests



Unit tests



Integration tests

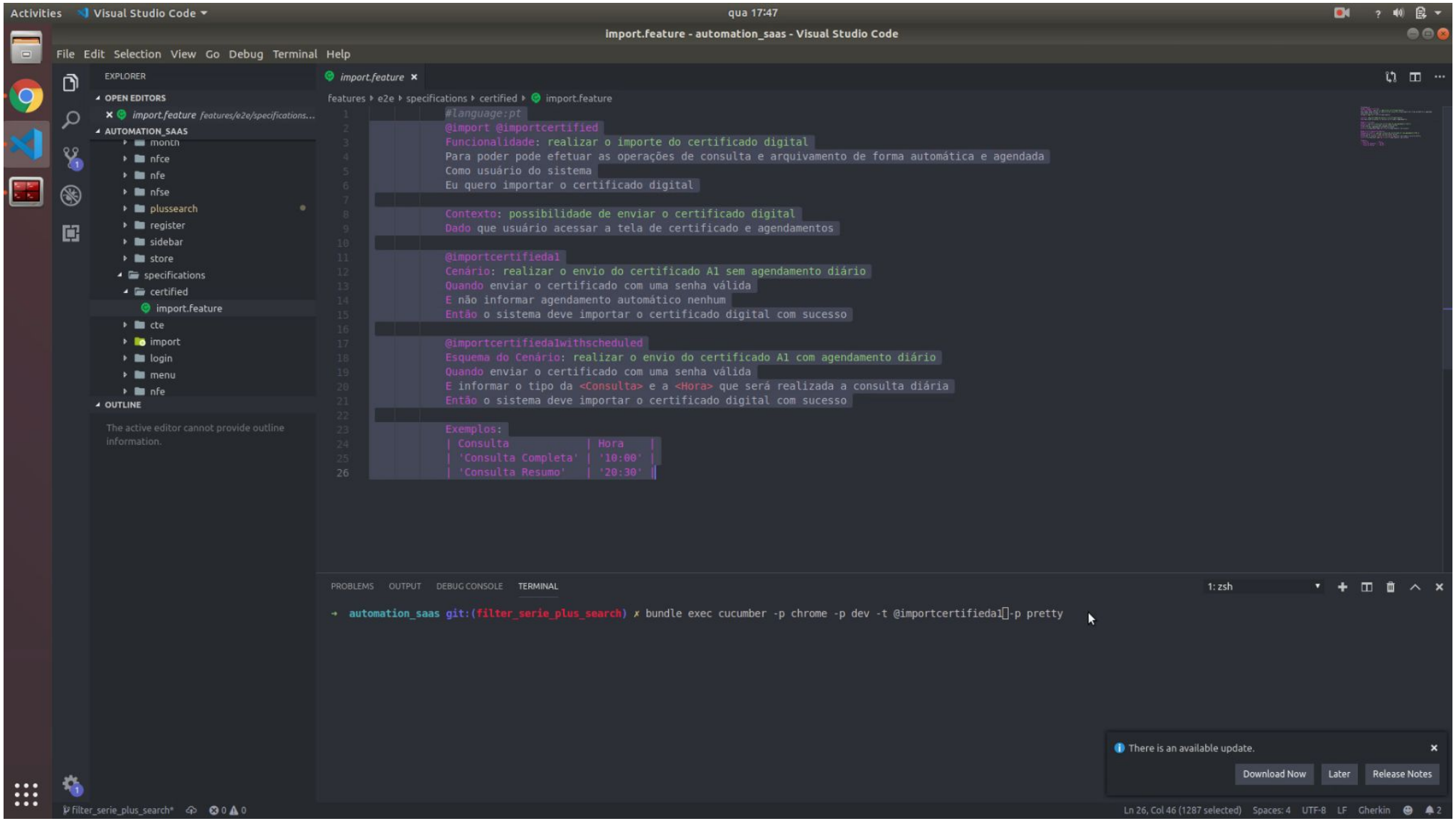


Guillermo ▲
@rauchg

Write tests. Not too many. Mostly integration.

2:43 PM · Dec 10, 2016 from San Francisco, CA · Twitter Web Client

Regression tests



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Shallow

Real unit test (isolation, no children render)

Simple shallow

Calls:

- constructor
- render

Shallow + setProps

Calls:

- componentWillReceiveProps
- shouldComponentUpdate
- componentWillUpdate
- render

Shallow + unmount

Calls:

- componentWillUnmount

Mount

The only way to test componentDidMount and componentDidUpdate. Full rendering including child components. Requires a DOM (jsdom, domino). More constly in execution time. If react is included before JSDOM, it can require some tricks: require('fbjs/lib/ExecutionEnvironment').canUseDOM = true;

Simple mount

Calls:

- constructor
- render
- componentDidMount

Mount + setProps

Calls:

- componentWillReceiveProps
- shouldComponentUpdate
- componentWillUpdate
- render
- componentDidUpdate

Mount + unmount

Calls:

- componentWillUnmount

Render

only calls render but renders all children.
So my rule of thumbs is:

- Always begin with shallow
- If componentDidMount or componentDidUpdate should be tested, use mount
- If you want to test component lifecycle and children behavior, use mount
- If you want to test children rendering with less overhead than mount and you are not interested in lifecycle methods, use render

https://gist.github.com/fokusferit/e4558d384e4e9cab95d04e5f35d4f913

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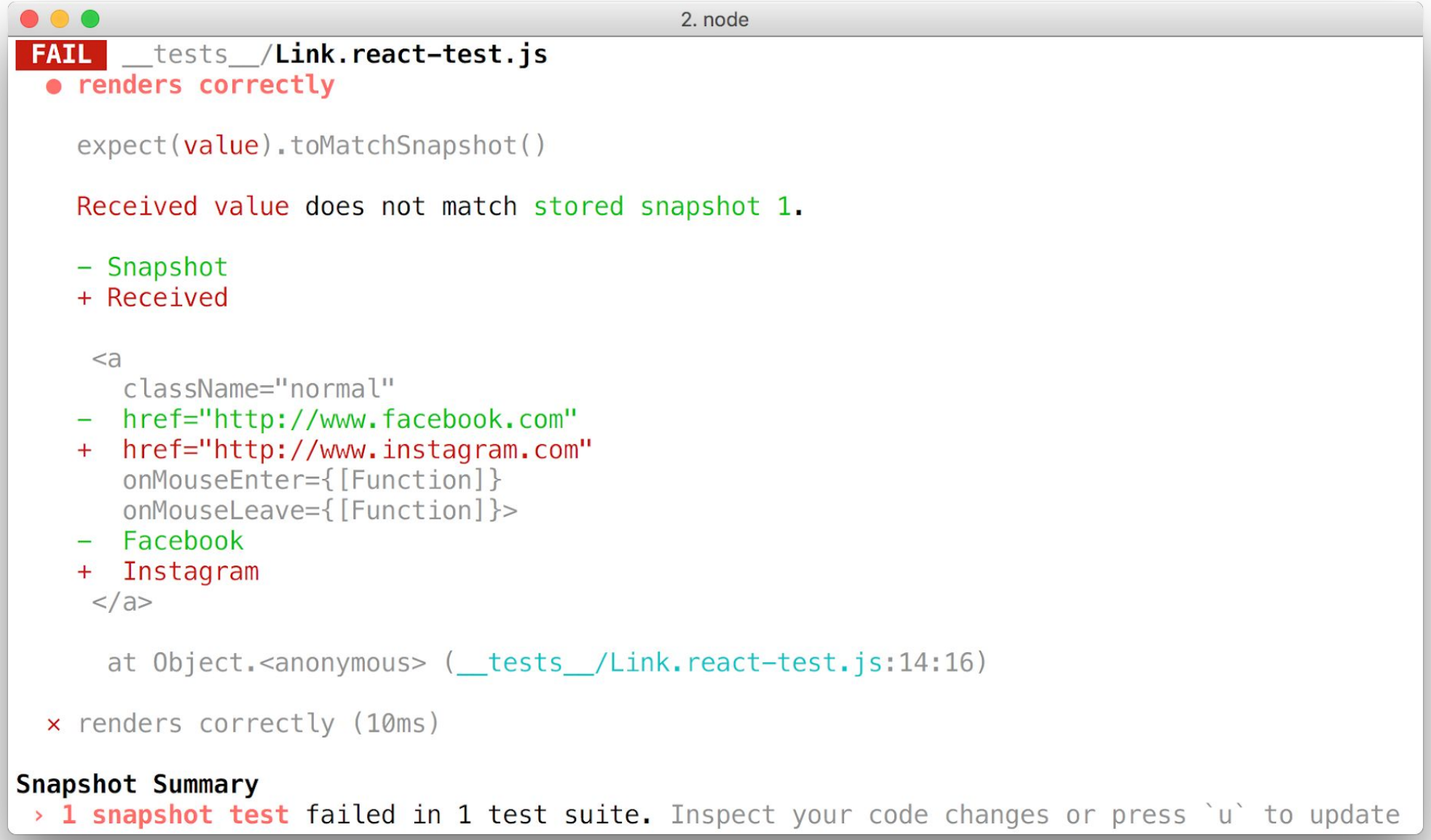
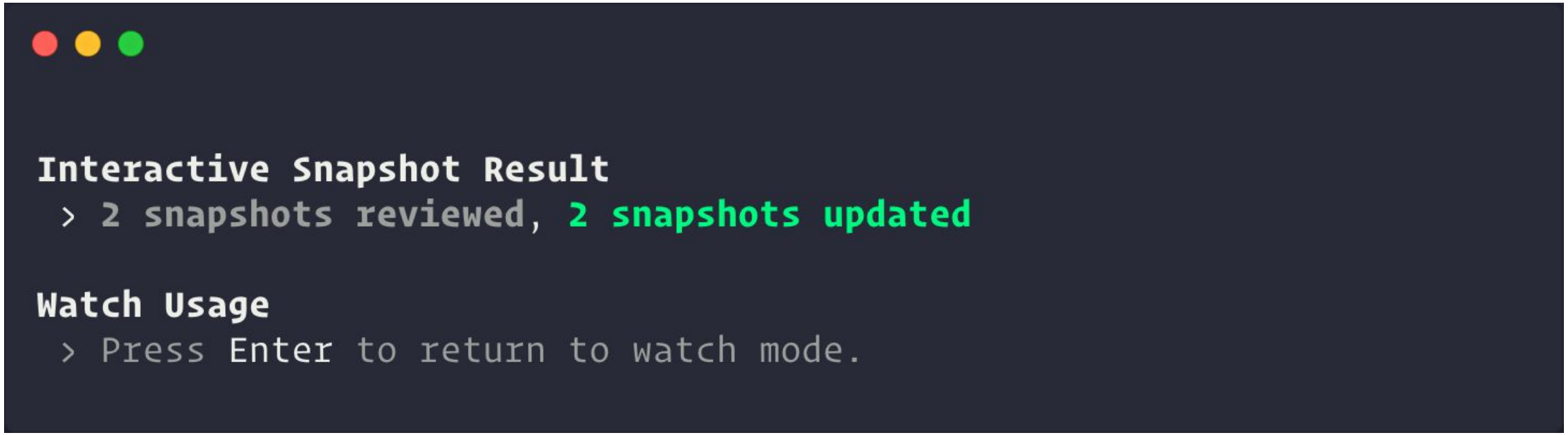
```
import React from 'react';
import Link from '../Link.react';
import renderer from 'react-test-renderer';

it('renders correctly', () => {
 const tree = renderer
   .create(<Link page="http://www.facebook.com">Facebook</Link>)
   .toJSON();
 expect(tree).toMatchSnapshot();
});
```

```
exports[`renders correctly 1`] = `
<a
 className="normal"
 href="http://www.facebook.com"
 onMouseEnter={[Function]}
 onMouseLeave={[Function]}
>
 Facebook
</a>
`;
```


2. node
FAIL __tests__/Link.react-test.js
● renders correctly
expect(value).toMatchSnapshot()
Received value does not match stored snapshot 1.
- Snapshot
+ Received
<a
className="normal"
- href="http://www.facebook.com"
+ href="http://www.instagram.com"
onMouseEnter={[Function]}
onMouseLeave={[Function]}>
- Facebook
+ Instagram
</a>
at Object.<anonymous> (__tests__/Link.react-test.js:14:16)
× renders correctly (10ms)
Snapshot Summary
› 1 snapshot test failed in 1 test suite. Inspect your code changes or press `u` to update


Interactive Snapshot Result
› 2 snapshots reviewed, 2 snapshots updated
Watch Usage
› Press Enter to return to watch mode.

Best practices

1. Treat snapshots as code
   commit them
   review then

Best practices

1. Treat snapshots as code
   commit them
   review then

2. Tests should be deterministic
   Date.now = jest.**fn**(() => 1482363367071);

Best practices

1. Treat snapshots as code
   commit them
   review then

2. Tests should be deterministic
   Date.now = jest.**fn**(() => 1482363367071);

3. Use descriptive snapshot names
   <UserName /> should handle some test case

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Arquivei / ... / Pipelines

#2779 Rerun

4818fc6 Merged in feature/plus-search /companies-model (pull request #594)...

master

13 min 59 sec 2 days ago

Pipeline

Installation	51s
Quality Assurance	4m 37s
Building	7m 10s
Publishing	1m 19s

Arquivei / ... / Pipelines

#2781 Rerun

6a0aa6e (+) Creates AlertMessage component
The new consult will add more elements in...

feature/new-consult-alerts

3 min 9 sec 4 hours ago

Pipeline

Installation	1m 12s
Quality Assurance	1m 55s
Building	0s
Publishing	0s

make lint 1m 18s

```
+ make lint
npm run lint

> frontend-arquivei@1.0.0 lint /opt/atlassian/pipelines/agent/build
> eslint . --ext .jsx --ext .js


/opt/atlassian/pipelines/agent/build/app/app/routes/NfeList/Connects/AlertMessage.jsx
  8:1  error  `react-redux` import should occur before import of `../store/selectors`  import/order

/opt/atlassian/pipelines/agent/build/app/app/routes/NfeList/Connects/ConsultStatus.jsx
  12:1   error  `react-redux` import should occur before import of `../Actions/ConsultButtons`     import/order
  13:1   error  `core/constants` import should occur before import of `../Actions/ConsultButtons`  import/order
  16:34  error  Strings must use singlequote                                                       quotes
  73:23  error  Missing trailing comma                                                             comma-dangle
  84:6   error  Missing semicolon                                                                  semi
  85:10  error  Unnecessary 'else' after 'return'                                                  no-else-return
  90:6   error  Missing semicolon                                                                  semi
  96:6   error  Missing semicolon                                                                  semi

✖ 9 problems (9 errors, 0 warnings)
  9 errors and 0 warnings potentially fixable with the `--fix` option.

npm ERR! code ELIFECYCLE
npm ERR! errno 1
npm ERR! frontend-arquivei@1.0.0 lint: `eslint . --ext .jsx --ext .js`
npm ERR! Exit status 1
npm ERR!
npm ERR! Failed at the frontend-arquivei@1.0.0 lint script.
npm ERR! This is probably not a problem with npm. There is likely additional logging output above.

npm ERR! A complete log of this run can be found in:
npm ERR!     /root/.npm/_logs/2019-07-31T16_56_40_689Z-debug.log
make: *** [Makefile:87: lint] Error 1
```

Build teardown <1s

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SHUT UP AND
SHOW ME THE CODE

Questions?

Busquem **Conhecimento!!!**

Thank you!

Rafael Mariano

Tech Lead **Arquivei**

@toruticas

@toruticas

@rafael

We're **Hiring**!

arquivei.com.br/vagas

All Levels

Frontend

Backend

SRE/DevOps

QA