

TESTING

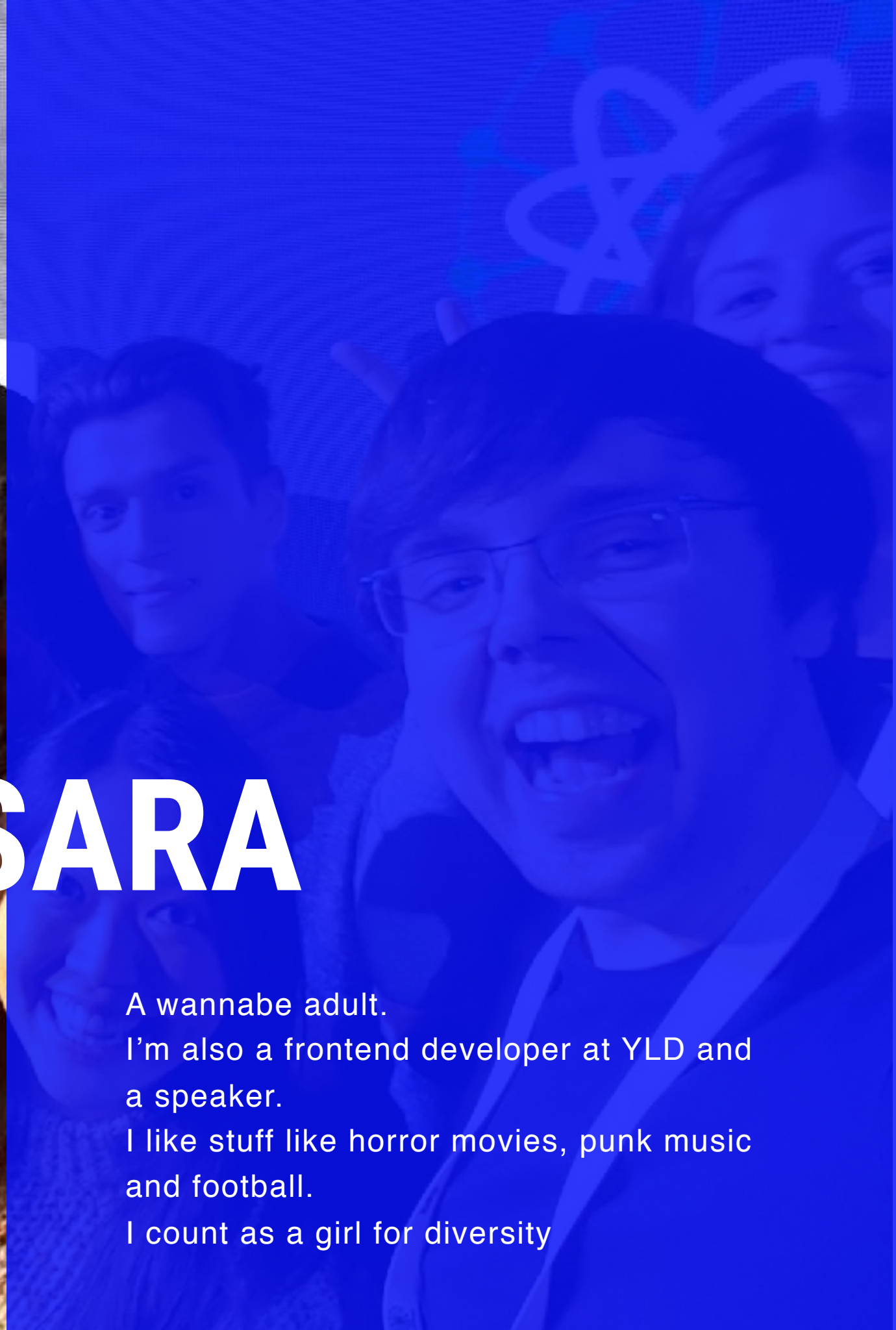
React Applications





I'M SARA

A wannabe adult.
I'm also a frontend developer at YLD and
a speaker.
I like stuff like horror movies, punk music
and football.
I count as a girl for diversity



STUFF Y'ALL NEED

- **NODE**
- **GIT**
- **JS AND REACT KNOWLEDGE**
- **CODESANDBOX ACCOUNT**
- **PATIENCE FOR TESTING AND MY HORRIBLE JOKES**

CODESANDBOX = 

MATERIAL

**GITHUB.COM/SARAVIEIRA/TESTING-REACT-
WORKSHOP**

The background of the slide is a landscape photograph of a mountain range under a clear sky. A solid blue vertical bar runs down the center of the image, from the top to the bottom. The text is overlaid on this bar and the landscape.

**WHY
SHOULD I
TEST?**

**BECAUSE NO ONE LIKES TO
BE WRONG**



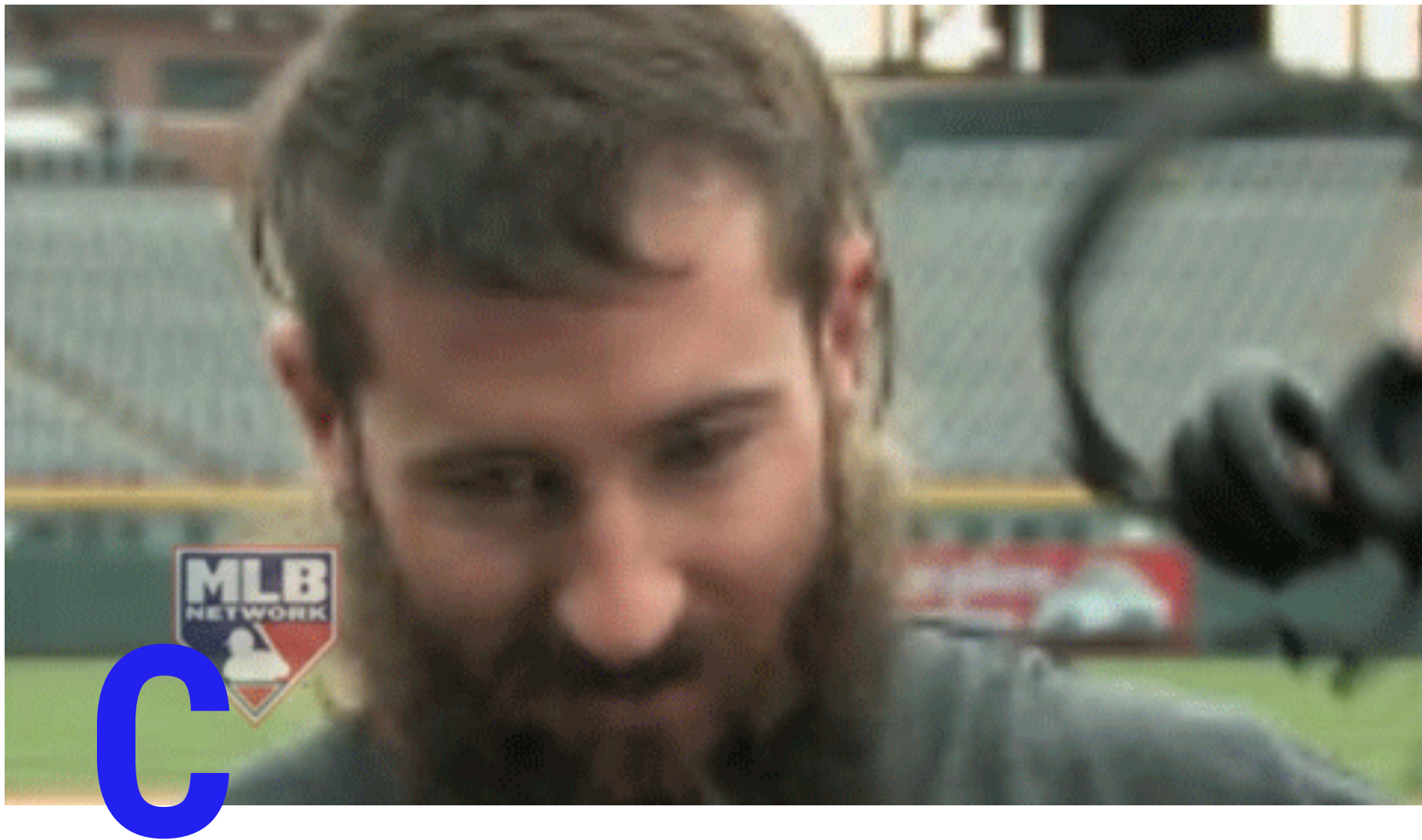
A

TESTS ARE DOCUMENTATION



B

TESTS ALLOW REFACTOR



The background of the slide is a landscape photograph of a mountain range under a clear sky. A solid blue vertical bar runs down the left side of the image. The text 'UNIT TEST ?' is positioned in the upper half, with 'UNIT' on the blue bar and 'TEST ?' on the landscape. The text 'WTF ?' is positioned in the lower half, with 'WTF' on the blue bar and '?' on the landscape.

UNIT TEST ?
WTF ?

“

**A UNIT TEST IS AN AUTOMATED PIECE OF
CODE THAT TESTS A UNIT OF WORK IN
ISOLATION.**

**A UNIT OF WORK IN OUR CASE IS MOSTLY A
FUNCTION.**

```
const sum = (a, b)  $\Rightarrow$  a + b
```

```
assert(sum(2, 2), 4);
```


CREATE A SIMPLE TEST RUNNER


01

[HTTPS://JSBIN.COM/
KIJISAHASA](https://jsbin.com/KIJISAHASA)

CONSOLE.ASSERT()

**WRITES AN ERROR MESSAGE TO THE
CONSOLE IF THE ASSERTION IS FALSE. IF
THE ASSERTION IS TRUE, NOTHING
HAPPENS.**

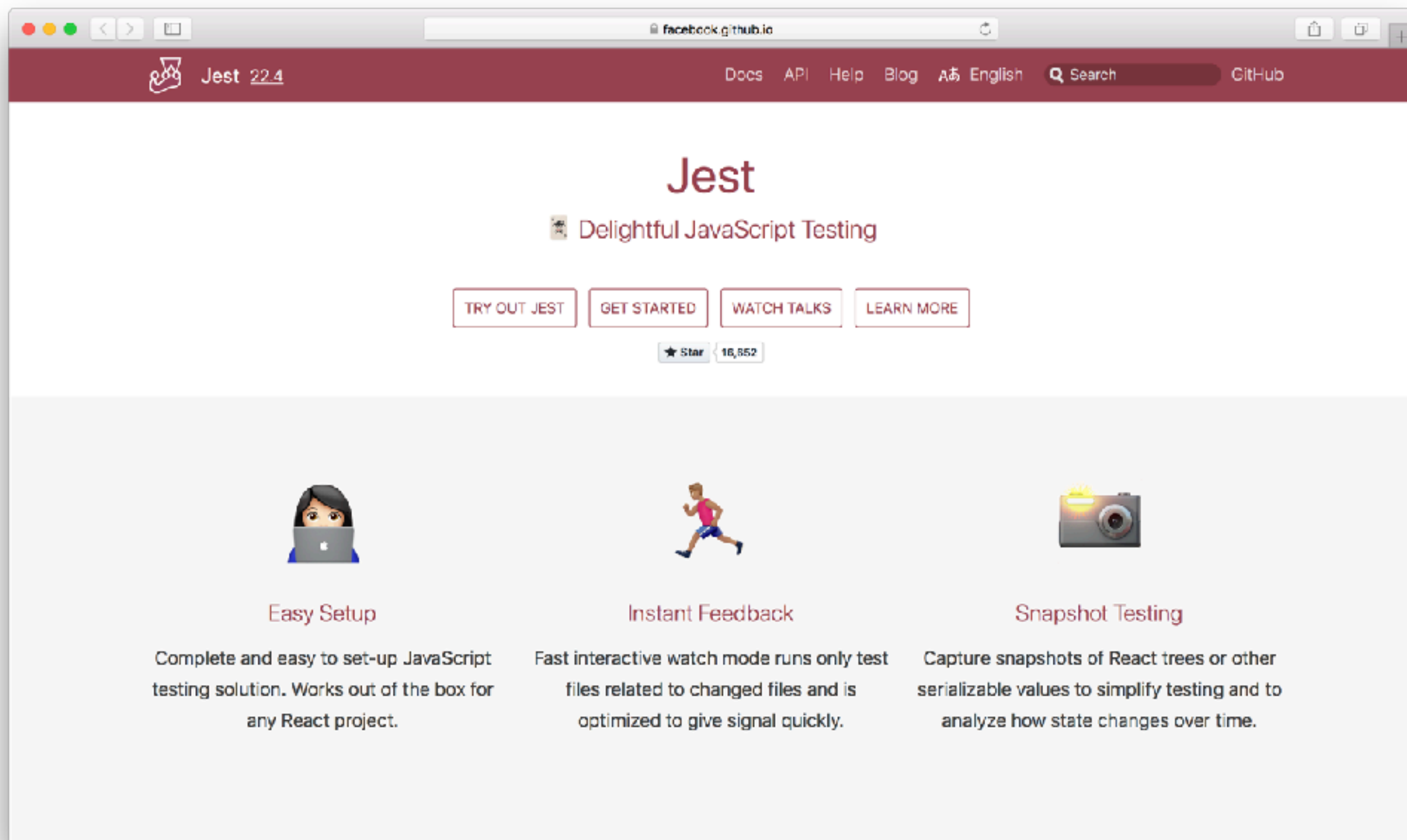
[HTTPS://DEVELOPER.MOZILLA.ORG/EN-US/DOCS/WEB/API/CONSOLE/ASSERT](https://developer.mozilla.org/en-US/docs/Web/API/Console/assert)



**[HTTPS://JSBIN.COM/
KIJISAHASA](https://jsbin.com/kijisahasa)**

INSTALL JEST

02



Jest 22.4

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Delightful JavaScript Testing

TRY OUT JEST

GET STARTED

WATCH TALKS

LEARN MORE

★ Star

16,852



Easy Setup

Complete and easy to set-up JavaScript testing solution. Works out of the box for any React project.



Instant Feedback

Fast interactive watch mode runs only test files related to changed files and is optimized to give signal quickly.



Snapshot Testing

Capture snapshots of React trees or other serializable values to simplify testing and to analyze how state changes over time.

```
yarn add jest -dev
```


LET'S TEST JS

03

[CODESANDBOX.IO/S/
QLVM92Z92J](https://codesandbox.io/s/QLVM92Z92J)

[HTTPS://CODESANDBOX.IO/S/QLVM92Z92J](https://codesandbox.io/s/QLVM92Z92J)

**LET'S TEST A SIMPLE SUM FUNCTION AND
SEE HOW JUST BY CREATING SOME TESTS
WE CAN CATCH A LOT OF BUGS**

EXERCISE

Please fork before making
changes

<https://codesandbox.io/s/z3w1k7nx94>

REACT AND UNIT TESTING

04

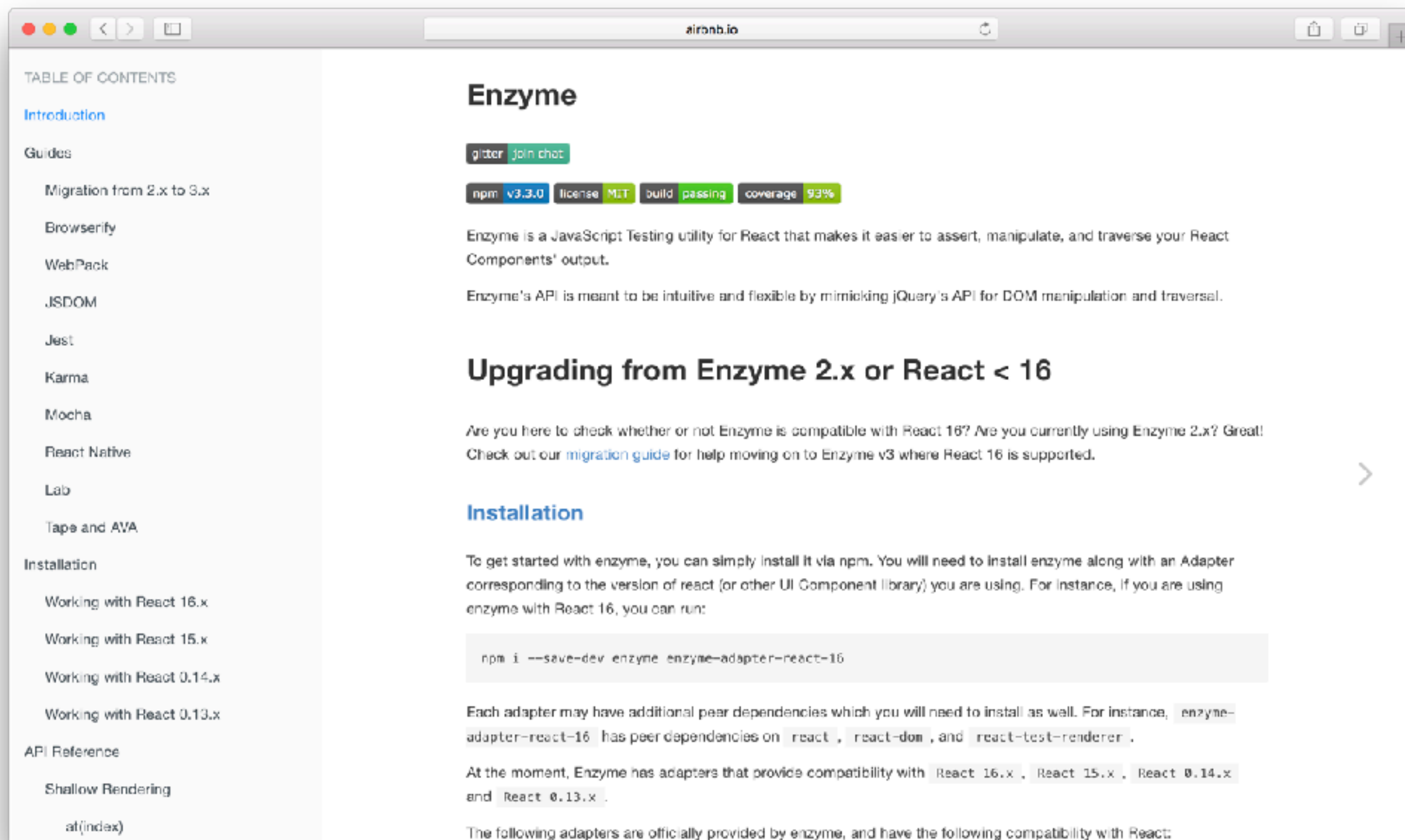
**IN ANY JAVASCRIPT MODULE THE IDEA OF
A UNIT TEST IS TO TEST A FUNCTION**

**IN REACT OUR FUNCTIONS ARE OUR
COMPONENTS SO THE MECHANICS ARE A
BIT DIFFERENT**

**WE NEED TO TEST FOR WHAT THE USER
SEES ON THE PAGE**

INSTALL ENZYME

05



**“ENZYME IS A JAVASCRIPT TESTING
UTILITY FOR REACT THAT MAKES IT EASIER
TO ASSERT, MANIPULATE, AND TRAVERSE
YOUR REACT COMPONENTS' OUTPUT.**

**ENZYME'S API IS MEANT TO BE INTUITIVE
AND FLEXIBLE BY MIMICKING JQUERY'S API
FOR DOM MANIPULATION AND
TRAVERSAL.**


```
yarn add enzyme enzyme-adapter-  
react-16 --dev
```

CONFIGURE ENZYME

06

```
"jest": {  
  "setupTestFrameworkScriptFile":  
  "<rootDir>src/setupTests.js"  
}
```

```
import Enzyme from "enzyme";  
import Adapter from "enzyme-adapter-  
react-16";  
  
// React 16 Enzyme adapter  
Enzyme.configure({ adapter: new Adapter() });
```


The background of the image is a landscape photograph. The left half of the image is covered by a solid blue vertical bar. The right half shows a mountain range under a clear sky. The mountains in the foreground are dark and rocky, while the ones in the distance are lighter and have some snow or ice. The sky is a pale blue with a hint of orange near the horizon, suggesting a sunset or sunrise. The text "LET'S TEST REACT" is written in large, white, bold, sans-serif capital letters across the center of the image, with the blue bar acting as a design element behind the text.

**LET'S
TEST
REACT**

LET'S TEST THE DOM

07

[CODESANDBOX.IO/S/
V3VNN457OL](https://codesandbox.io/s/v3vnn457ol)

EXERCISE

Please fork before making
changes

<https://codesandbox.io/s/7wk640x9zq>

**MOUNT ?
SHALLOW ?
RENDER ?
WTF ?**

08

SHALLOW

**SHALLOW RENDERS THE CURRENT NODE
AND RETURNS A SHALLOW WRAPPER
AROUND IT.**

**DOES NOT RENDER CHILDREN OF THE
COMPONENT. USEFUL FOR A SINGLE
COMPONENT**

MOUNT

A METHOD THAT RE-MOUNTS THE COMPONENT. THIS CAN BE USED TO SIMULATE A COMPONENT GOING THROUGH AN UNMOUNT/MOUNT LIFECYCLE.

USEFUL FOR PROPS AS WE NEED TO RE RENDER THE COMPONENT AND ALSO RENDERS THE WHOLE TREE

RENDER

FUNCTION IS USED TO RENDER REACT COMPONENTS TO STATIC HTML AND ANALYZE THE RESULTING HTML STRUCTURE.

VERY USEFUL FOR SNAPSHOT TESTING

LET'S TEST STATE CHANGES

09

[CODESANDBOX.IO/S/
34LM7YQ87M](https://codesandbox.io/s/34LM7YQ87M)

EXERCISE

Please fork before making
changes

<https://codesandbox.io/s/k9y4jkxo95>

SNAPSHOT TESTING

10

PLEASE CLONE

github.com/SaraVieira/testing-react-workshop

RUN

```
cd snapshots/start  
npm install  
npm run test --watch
```



**ADD
COVERAGE**

11



QUESTIONS ?



THANK YOU