

React: The Big Picture



Cory House

@housecor | reactjsconsulting.com



Course Outline



Why React?



Tradeoffs



Why not React?



Agenda



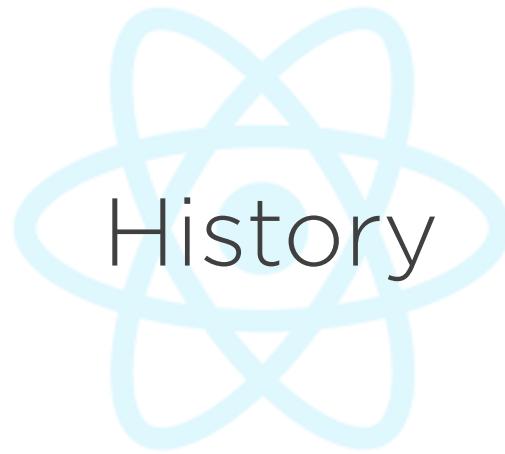
History

Why React?



History





- | | |
|-------|---|
| 2011 | Created by Facebook |
| 2012 | Used on Instagram |
| 2013 | Open sourced |
| 2014 | Embraced by many large companies |
| 2015 | React Native released |
| 2016 | React 15 released
(previous version was 0.14) |
| Today | Over 50k components at Facebook
Full-time dev staff
Used by many in Fortune 500 |



Why React?



Why React?

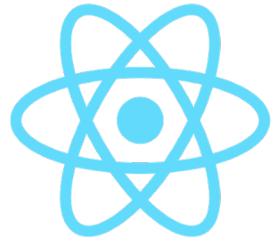
- Flexibility
- Developer experience
- Corporate investment
- Community support
- Performance
- Testability



1

Flexibility





React



Angular



Ember

Opinion →



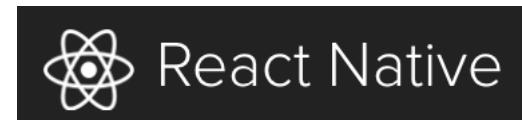
Where Can I Use React?



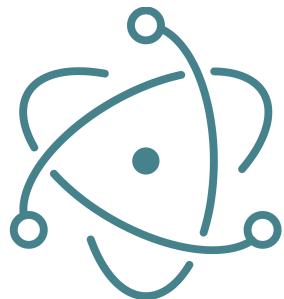
Web apps



Static sites



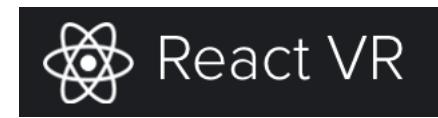
Mobile



Desktop

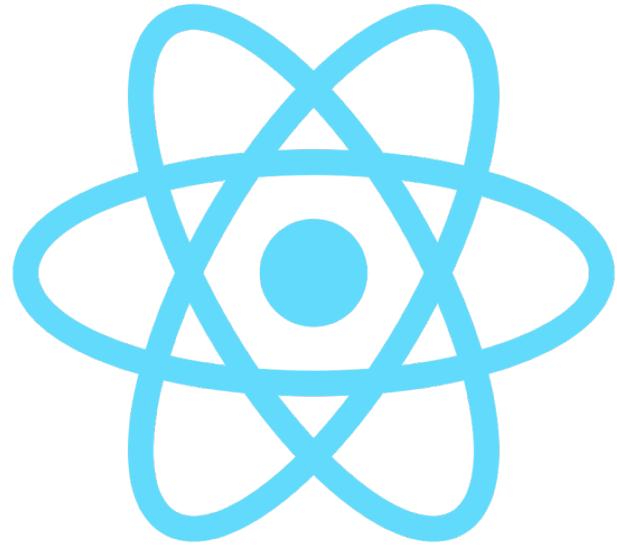


Server-rendered



Virtual Reality





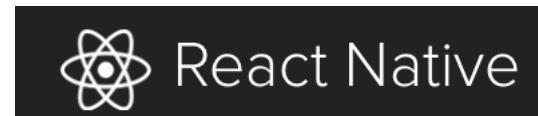
Learn once, write everywhere



React Renderers



react-dom



react-native



react-vr



Web (+ NW & Electron)

- [react-dom](#) - A declarative, efficient, and flexible JavaScript library for building user interfaces.
- [react-art](#) - React Bridge to the ART Drawing Library.
- [react-canvas](#) - High performance canvas rendering for React components.
- [react-three](#) - React bindings to create and control a 3D scene using three.js.
- [React-GL](#) - Render React components in WebGL for 60 FPS animations.
- [ReactLiberty](#) - Connect, discover, be free to choose between WebGL / Canvas (PIXI) / DOM or any other UI renderer.
- [react-vr](#) - Render React components in WebGL/WebVR for VR apps.
- [react-konsul](#) - A react renderer that renders to the browser's devtools console.
- [react-worker-dom](#) - Experiments to see the advantages of using Web Workers to Render React Virtual DOM.
- [rax](#) - A universal React-compatible render engine.

Mobile

- [react-native](#) - A framework for building native apps with React.
- [react-titanium](#) - React custom renderer for Appcelerator® Titanium™ SDK.

Command Line Interface

- [react-blessed](#) - A react renderer for blessed.
- [ink](#) - React for interactive command-line apps

Server-side Rendering

`ReactDOMServer.renderToString()`



Server-side Rendering



Next



Gatsby



Phenomic



Existing app?
Sprinkle React in.





Home



Browse

Search...



Paths



Channels



Bookmarks



Q&A



Cory House



Pluralsight Author

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3705 Followers

Cory is the principal consultant at reactjsconsulting.com, where he has helped dozens of companies transition to React. Cory has trained over 10,000 software developers at events and businesses worldwide. He is a seven time Microsoft MVP, and speaks regularly at conferences around the world. Cory...

CONTENT AUTHORED

11

All time

Content by Cory

TOPICS AUTHORED



TOTAL RATINGS

8,711

AVG CONTENT RATING

4.7

Step 1: Replace the star rating with a React component

Clean Coding Principles in C# NEW!Course · Beginner · 3 hr 19m · Jan 1, 2020 · ★★★★★ (23)

Building Applications with React and Flux

Course · Intermediate · 5 hr 11m · Jun 18, 2019 · ★★★★★ (1,322)

Building Applications with React and Redux

Course · Intermediate · 6 hr 39m · Mar 11, 2019 · ★★★★★ (1,422)



Home



Browse

Search...



Paths



Channels



Bookmarks



Q&A



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CONTENT AUTHORED

11

All time

TOPICS AUTHORED



TOTAL RATINGS

8,711

AVG CONTENT RATING

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Step 2: Replace each course list item with React

Content by Cory

Clean Coding Principles in C#

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Building Applications with React and Redux

Course · Intermediate · 6 hr 39m · Mar 11, 2019 · ★★★★★ (1,422)



Home



Browse



Search

Step 3: Replace author page with React

Paths

Channels

Bookmarks

Q&A



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CONTENT AUTHORED

11

All time

TOPICS AUTHORED



react.js

TOTAL RATINGS

8,711

AVG CONTENT RATING

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Building Applications with React and Redux

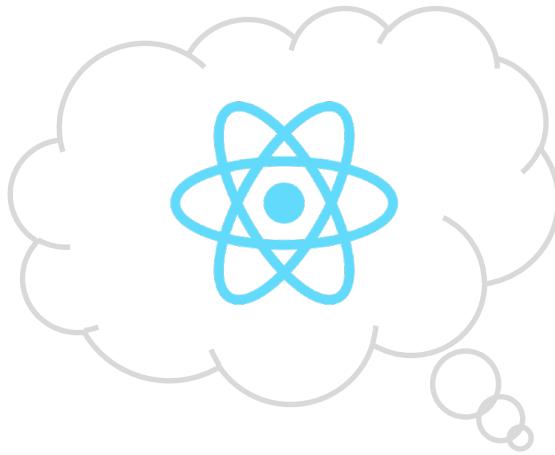
Course · Intermediate · 6 hr 39m · Mar 11, 2019 · ★★★★★ (1,422)

Broad Browser Support



2

Developer Experience





The React API fits here.

You'll rarely use the docs.



```
import React from 'react';

function HelloWorld(props) {
  return <div>Hello {props.name}</div>
}

}
```



```
import React from 'react';

class HelloWorld extends React.Component {
  render() {
    return <div>Hello {props.name}</div>
  }
}
```



JSX Compiles to JS

```
<h1 color="red">Heading here</h1>
```



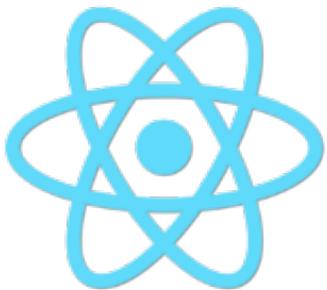
```
React.createElement("h1", {color: "red"}, "Heading here")
```





“JS” in HTML

```
<div *ngFor="let user of users">  
<div v-for="user in users">  
{{#each user in users}}
```



“HTML” in JS

```
{users.map(createUser)}
```







Web Development Made Faster

An instant IDE and prototyping tool for rapid web development.

Create a Sandbox, it's free

No signup required



Sign in with Github

Project

Title

Description

Template

[create-react-app](#)

63,421 53 0

Files

Project

Hello.js

index.html

index.js

Dependencies

/index.js

Prettify

Save



<https://new.codesandbox.io>



Hello CodeSandbox!

Start editing to see some magic happen

```
1 import React from 'react';
2 import { render } from 'react-dom';
3 import Hello from './Hello';
4
5 const styles = {
6   fontFamily: 'sans-serif',
7   textAlign: 'center',
8 };
9
10 const App = () => (
11   <div style={styles}>
12     <Hello name="CodeSandbox" />
13     <h2>Start editing to see some magic happen {'\u2728'}</h2>
14   </div>
15 );
16
17 render(<App />, document.getElementById('root'));
18
```

3 Corporate Investment





Created and maintained by Facebook





gaearon

1,315 commits 402,707 ++ 339,495 --

#1



bvaughn

1,156 commits 430,271 ++ 377,690 --

#2



sophiebits

870 commits 117,656 ++ 45,819 --

#3



zpao

821 commits 87,398 ++ 131,911 --

#4



acdlite

621 commits 150,274 ++ 110,715 --

#5



sebmarkbage

609 commits 241,711 ++ 195,490 --

#6



Building Great User Experiences with Concurrent Mode and Suspense

At React Conf 2019 we announced an [experimental release](#) of React that supports Concurrent Mode and Suspense. In this post we'll introduce best practices for using them that we've identified through the process of building [the new facebook.com](#).

This post will be most relevant to people working on *data fetching libraries* for React.

RECENT POSTS ^

[Building Great User Experiences with Concurrent Mode and Suspense](#)

[Preparing for the Future with React Prereleases](#)

[Introducing the New React DevTools](#)

[React v16.9.0 and the Roadmap Update](#)

[Is React Translated Yet? ¡Sí! Sim! はい!](#)

[React v16.8: The One With Hooks](#)

[React v16.7: No, This Is Not the One With Hooks](#)

[React 16.x Roadmap](#)

[React Conf recap: Hooks, Suspense, and Concurrent Rendering](#)

[React v16.6.0: lazy, memo and contextType](#)

[All posts ...](#)



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reactjs / react-codemod

Used by ▾

66

Watch ▾

67

Unstar

3.1k

Fork

250

Code

Issues 5

Pull requests 2

Actions

Projects 0

Wiki

Security

Insights

React codemod scripts

254 commits

1 branch

0 packages

5 releases

50 contributors

MIT

Branch: master ▾

New pull request

Create new file

Upload files

Find file

Clone or download ▾

dependabot Bump handlebars from 4.1.2 to 4.5.3 (#253) ...

✓ Latest commit ad866c2 3 days ago



bin

Add --explicit-require to CLI help command (#248)

4 months ago



jest

change from older bsd+patents to mit license (#244)

5 months ago



transforms

Issues/181 : manual-bind-to-arrow does not clean up constructor binds...

4 months ago



.babelrc

Upgrade Jest and Babel dependencies (#227)

7 months ago



.eslintignore

Fix ESLint Warnings & Add .eslintignore

3 years ago



.eslintrc.js

update packages, fix lint warnings (#246)

4 months ago

```
import React from 'React';  
// later...  
React.PropTypes.string
```

```
import PropTypes from 'prop-types'  
// later...  
PropTypes.string
```

◀ Warning in React 15.5+

◀ Codemod update



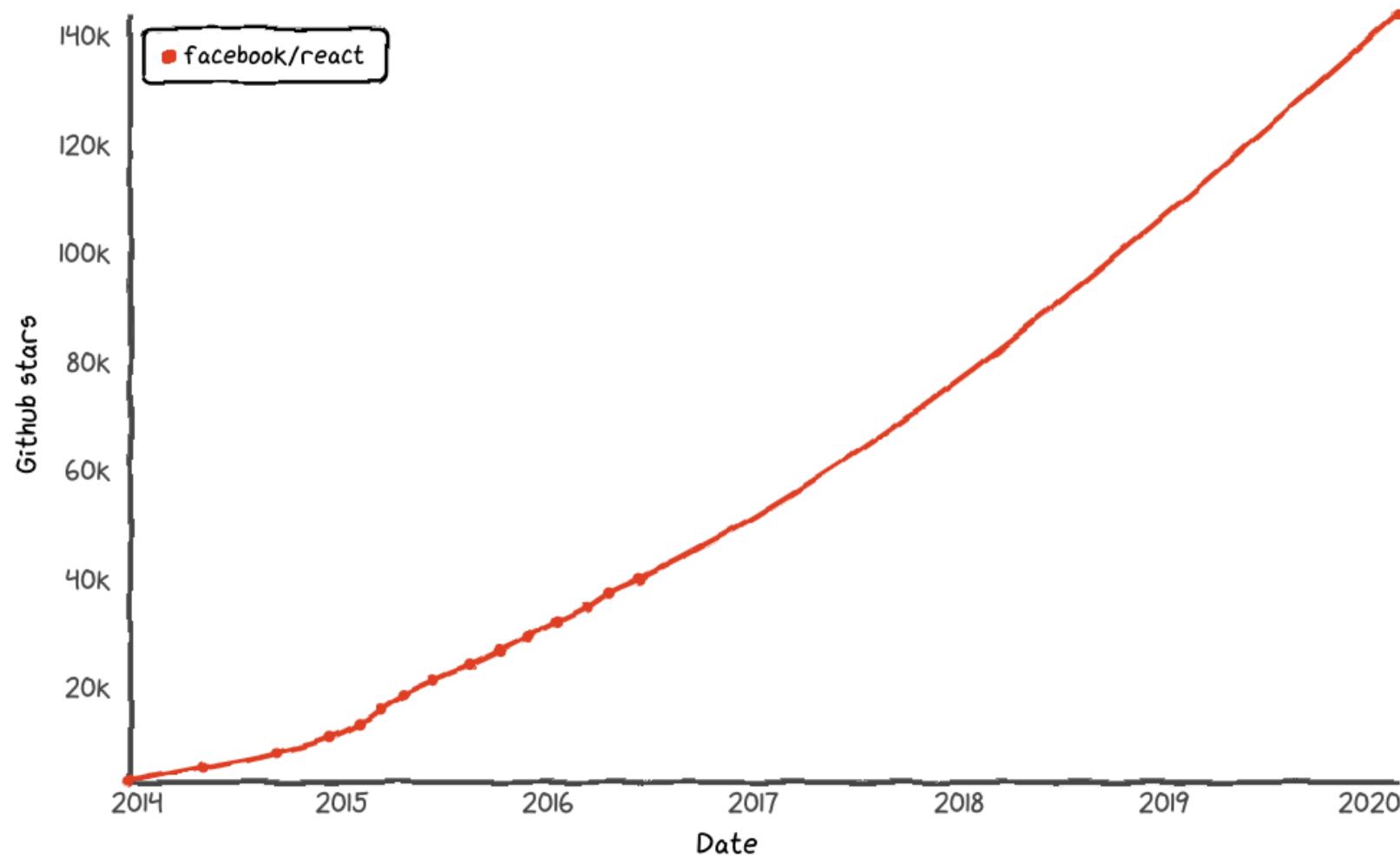
50,000



4 Community



Star history





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Pull requests Issues Marketplace Explore



facebook / react

Used by ▾

3.1m

Unwatch releases ▾

6.6k

Unstar

144k

Fork

27.7k

Code

Issues 482

Pull requests 96

Actions

Projects 0

Wiki

Security

Insights

A declarative, efficient, and flexible JavaScript library for building user interfaces. <https://reactjs.org>

[javascript](#) [react](#) [frontend](#) [declarative](#) [ui](#) [library](#)

12,838 commits

49 branches

0 packages

124 releases

1,362 contributors

MIT

Branch: master ▾

[New pull request](#)[Create new file](#)[Upload files](#)[Find file](#)[Clone or download ▾](#)

acdlite Bugfix: `memo` drops lower pri updates on bail out (#18091) ...

✓ Latest commit 5de5b61 2 hours ago

.circleci Build and store DevTools artifacts in Circle CI (#17746) 2 months ago

.codesandbox Add CodeSandbox CI Config (#17175) 4 months ago

.github Update issue templates to directly link to relevant sources (#18039) 2 days ago

fixtures Add dom fixture for autofilled form state (#17951) 16 days ago

packages Bugfix: `memo` drops lower pri updates on bail out (#18091) 2 hours ago



stars:>1



Pull requests Issues Marketplace Explore



Repositories	3M+
Code	0
Commits	0
Issues	0
Packages	32K
Marketplace	2K
Topics	610K
Wikis	0
Users	0

Showing 3,545,748 available repository results

Sort: Most stars ▾

[freeCodeCamp/freeCodeCamp](#)

The <https://www.freecodecamp.org> open source codebase and curriculum. Learn to code for free together with millions o...

[curriculum](#) [certification](#) [react](#) [nodejs](#) [javascript](#) [d3](#) [teachers](#) [community](#) [education](#) [programming](#)
[math](#) [learn-to-code](#) [nonprofits](#) [careers](#)

309k JavaScript BSD-3-Clause license Updated 7 hours ago 37 issues need help

[996icu/996.ICU](#)

Repo for counting stars and contributing. Press F to pay respect to glorious developers.

249k Rust Updated 6 days ago

[facebook/react](#)

A declarative, efficient, and flexible JavaScript library for building user interfaces.

[react](#) [javascript](#) [library](#) [ui](#) [frontend](#) [declarative](#)

144k JavaScript MIT license Updated 1 hour ago 4 issues need help

Languages	
JavaScript	646,491
Python	442,584
Java	323,667



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react

16.12.0 • Public • Published 3 months ago

[Readme](#)[Explore BETA](#)[3 Dependencies](#)[51,937 Dependents](#)[255 Versions](#)

react

React is a JavaScript library for creating user interfaces.

The `react` package contains only the functionality necessary to define React components. It is typically used together with a React renderer like `react-dom` for the web, or `react-native` for the native environments.

Note: by default, React will be in development mode. The development version includes extra warnings about common mistakes, whereas the production version includes extra performance optimizations and strips all error messages. Don't forget to use the `production build` when deploying your application.

Install

```
> npm i react
```

Weekly Downloads

6,867,199



Version

16.12.0

License

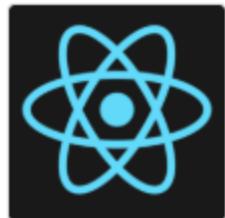
MIT

Unpacked Size

228 kB

Total Files

10

[Home](#) / [Application and Data](#) / [Libraries](#) / [Javascript UI Libraries](#)

React

A JavaScript library for building user interfaces

 [reactjs](#) |  [facebook.github.io](#) 

Stacks	Followers	Votes
35.4K	27.1K	3.5K

 Following

+ I use this

[Description](#)[Stacks](#)[Integrations](#)[Pros](#)[Jobs](#) 20[Alternatives](#)[Followers](#)

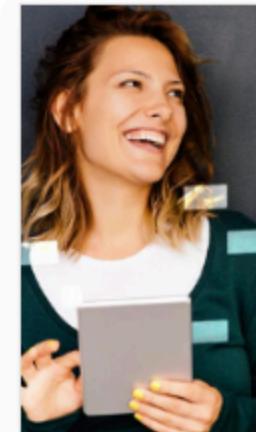
Understand the cause of every
bug with LogRocket

What is React?

Lots of people use React as the V in MVC. Since React makes no assumptions about the rest of your technology stack, it's easy to try it out on a small feature in an existing project.

React is a tool in the [Javascript UI Libraries](#) category of a tech stack.

React is an open source tool with 144.1K GitHub stars and 27.7K GitHub forks. Here's a link to React's open source repository on GitHub



APIs for
building
custom,
enterprise
ad platforms

[Learn more](#)

Who uses React?

COMPANIES

8154 companies reportedly use React in their tech stacks, including Airbnb, Uber, and Facebook.



[Trending](#)[Top](#)[New](#)[Visit Website](#)

Slack

↑ 5.91K ⚡ 33.3K

Bring all your communication together in one place

Group Chat & Notifications

[See all alternatives to Slack](#)[Popular tool comparisons with Slack](#)[+ Follow](#)[View Jobs](#)[Visit Website](#)

Node.js

↑ 7.97K ⚡ 37.8K

A platform built on Chrome's JavaScript runtime for easily building fast, scalable network applications

Frameworks (Full Stack)

[See all alternatives to Node.js](#)[Popular tool comparisons with Node.js](#)[+ Follow](#)[View Jobs](#)[Visit Website](#)

React

↑ 3.46K ⚡ 35.4K

A JavaScript library for building user interfaces

Javascript UI Libraries

[See all alternatives to React](#)[Popular tool comparisons with React](#)[✓ Following](#)[View Jobs](#)[Visit Website](#)

GitHub

↑ 10K ⚡ 56.9K

Powerful collaboration, review, and code management for open source and private development

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Reactiflux

WELCOME TO

We're a chat community of 80,000+ React JS , React Native , Redux , Jest , Relay  and GraphQL  developers. We hold Q&A's with Facebook Engineers  and other developers  in the community . Come chat about tech related to React & JavaScript or ask for help!

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Home

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Tags

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Tags

A tag is a keyword or label that categorizes your question with other, similar questions. Using the right tags makes it easier for others to find and answer your question.

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react

[Popular](#) [Name](#) [New](#)[reactjs](#)[Edit](#)

React (also known as React.js or ReactJS) is a JavaScript library developed by Facebook for building user interfaces. It uses a declarative,...

189159 questions 303 asked today, 1776 this week

[react-native](#)[Edit](#)

React Native lets you build native mobile apps using React. The focus of React Native is on developer efficiency across all the platforms you care abo...

68447 questions 124 asked today, 616 this week

[react-redux](#)[Edit](#)

Official React bindings for Redux

13434 questions 19 asked today, 79 this week

[react-router](#)[Edit](#)

React Router - A complete routing library for React inspired by Ember's routing system

11751 questions 11 asked today, 54 this week

[azure-active-directory](#)[Edit](#)

Microsoft Azure Active Directory (Microsoft Azure AD) is a modern developer platform and IAM service that provides identity management a...

8719 questions 14 asked today, 66 this week

[react-native-android](#)[Edit](#)

React-native-android: refers everything related to react-native Android development. Component, Styling, Routing and Native API access in...

5217 questions 14 asked today, 60 this week

[react-navigation](#)[Edit](#)

An easy-to-use navigation solution to be used across React and React Native projects

4559 questions 10 asked today, 53 this week

[react-hooks](#)[Edit](#)

a new feature that allows developers to use state(s) and other React features without writing a class.

4453 questions 25 asked today, 141 this week

[reactive-programming](#)[Edit](#)

a programming paradigm oriented around the use of functional programming concepts like immutability and non-blocking computation

[system.reactive](#)[Edit](#)

System.Reactive refers to the Reactive Extensions for .NET, Java, C++, Python, and F#

[create-react-app](#)[Edit](#)

a starter-kit for creating React apps using Create React App

[angular-reactive-forms](#)[Edit](#)

Questions about Angular Reactive Forms, which is a reactive form builder for Angular

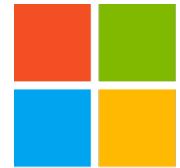


I just copy/pasted
my entire React
app from
StackOverflow!

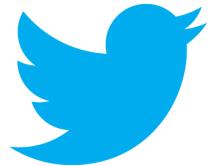
An answer to your use
case likely exists online.



Companies Using React



Microsoft



NETFLIX



reddit

The New York Times





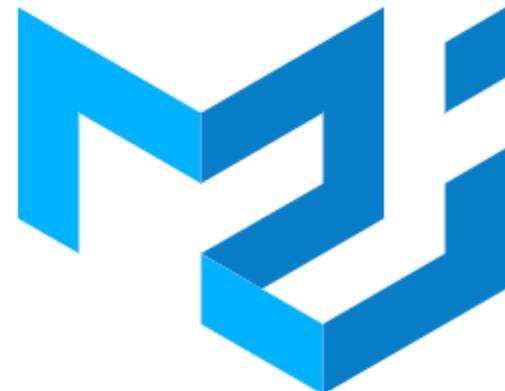
Create amazing experiences

Together, we've created UI Fabric, a collection of UX frameworks you can use to build Fluent experiences that fit seamlessly into a broad range of Microsoft products.

Connect with the cross-platform styles, controls and resources you need to do amazing things.

→ Get started

developer.microsoft.com/en-us/fabric#/

[Get Professional Support](#)

MATERIAL-UI

React components for faster and easier web development.
Build your own design system, or start with Material Design.

[GET STARTED](#)

[Home](#)[Getting Started](#)[Components](#)

v1.0.0-beta.16 (Bootstrap 4.3) ▾



React Bootstrap

The most popular front-end framework

Rebuilt for React.

[Get started](#)[Components](#)

react-bootstrap.github.io

Components

- [React Component List](#)
- [JS.coach - A catalog of React components](#)
- [iReact: Fantastic React Components and Libraries!](#)
- [Khan Academy React Components](#)
- [VistarMedia Components](#)
- [React Topcoat UI components](#)
- [react-material - Material design components written with React.js and React Style](#)
- [material-ui - A CSS Framework and a Set of React Components for Material Design](#)
- [react-google-login-component](#)
- [react-facebook-login-component](#)
- [react-component - A Collection of React UI Components](#)
- [Ant Design - An enterprise-class UI design language and React-based implementation](#)
- [UXCore - A React UI Component Set living for enterprise backend application](#)
- [react-desktop - OS X and Windows UI components built with React](#)
- [react-aim - Determine the cursor aim for triggering mouse events](#)
- [react-touch - React photo viewer for mobile](#)
- [griddle - A simple grid component for use with React](#)
- [react-grid - Data grid for React](#)
- [React-iCheck - iCheck components built with React. Highly customizable checkboxes and radio buttons](#)
- [react-absolute-grid - An absolutely positioned, animated, filterable, sortable, drag and droppable, ES6 grid for React](#)
- [react-async - Async rendering for React components](#)
- [react-async-input - Inputs that behave properly with async set{State,Props} calls](#)
- [react-countup - A React component wrapper around CountUp.js](#)
- [react-mediaswitch - Choose your DOM based on media queries](#)
- [react-frame-component - Render your React app to an iFrame](#)
- [react-gravatar - React component for rendering a gravatar profile image](#)
- [markdown-react - React Render for Standard Markdown](#)
- [react-component-gallery — React component for creating an evenly spaced components](#)
- [react-markdown-textarea - Component to create textareas for entering Markdown](#)
- [react-markdown-area - Github flavored markdown editor with live preview](#)
- [react-textarea-autosize - Textarea component for React which grows with content](#)
- [react-spinner - Zero configuration loading spinner](#)
- [react-treeview - Easy, light, flexible tree view made with React](#)

Ecosystem



React Router



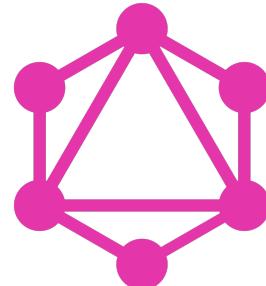
Redux



Mobx



Jest



GraphQL



Next.js



140,000+ stars on GitHub
1,300+ contributors
Millions of downloads/week

So uh, this React thing
is kind of a big deal?

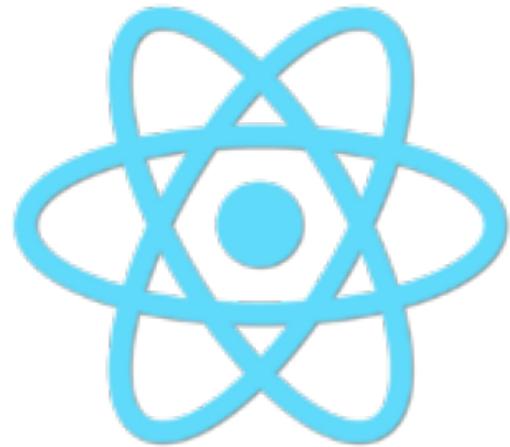


5

Performance



Why Virtual DOM?



Updating the DOM is expensive
So React minimizes DOM changes



Without Virtual DOM
Blindly update DOM using new state.

With Virtual DOM
Update the DOM in the most efficient way.



Avoids layout thrash
Saves battery and CPU
Enables simple programming model

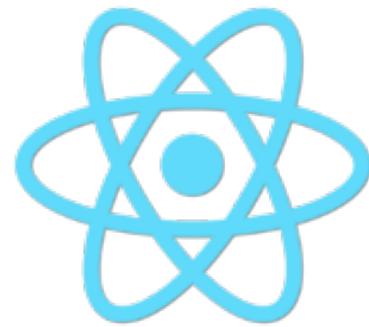


Duration in milliseconds \pm standard deviation (Slowdown = Duration / Fastest)

Name	angular-v1.6.3-keyed	angular-v2.4.9-keyed	angular-v4.1.2-keyed	ember-v2.13.0	glimmer-v0.3.10	knockout-v3.4.1	preact-v7.1.0	react-v15.5.4-keyed	vanillajs-keyed	vue-v2.3.3-keyed
create rows Duration for creating 1000 rows after the page loaded.	251.8 \pm 8.0 (1.8)	197.3 \pm 9.3 (1.4)	193.1 \pm 7.9 (1.4)	344.6 \pm 13.8 (2.5)	326.3 \pm 14.7 (2.4)	358.2 \pm 9.0 (2.6)	182.2 \pm 8.3 (1.3)	188.9 \pm 10.9 (1.4)	138.5 \pm 5.8 (1.0)	166.7 \pm 8.6 (1.2)
replace all rows Duration for updating all 1000 rows of the table (with 5 warmup iterations).	278.3 \pm 16.7 (1.9)	201.3 \pm 5.9 (1.4)	197.4 \pm 5.3 (1.3)	292.7 \pm 12.1 (2.0)	263.0 \pm 8.1 (1.8)	369.7 \pm 19.6 (2.5)	200.9 \pm 6.8 (1.4)	201.0 \pm 6.4 (1.4)	148.0 \pm 4.5 (1.0)	168.5 \pm 5.0 (1.1)
partial update Time to update the text of every 10th row (with 5 warmup iterations).	12.5 \pm 2.0 (1.0)	12.8 \pm 3.3 (1.0)	13.0 \pm 4.5 (1.0)	17.1 \pm 1.7 (1.1)	23.3 \pm 7.8 (1.5)	14.0 \pm 4.5 (1.0)	15.3 \pm 2.1 (1.0)	16.5 \pm 2.3 (1.0)	14.1 \pm 4.7 (1.0)	17.3 \pm 2.9 (1.1)
select row Duration to highlight a row in response to a click on the row. (with 5 warmup iterations).	8.1 \pm 3.6 (1.0)	4.9 \pm 3.4 (1.0)	3.4 \pm 2.3 (1.0)	8.6 \pm 2.4 (1.0)	13.6 \pm 5.6 (1.0)	11.4 \pm 2.6 (1.0)	8.7 \pm 3.9 (1.0)	8.8 \pm 3.4 (1.0)	10.1 \pm 4.7 (1.0)	9.3 \pm 1.7 (1.0)
swap rows Time to swap 2 rows on a 1K table. (with 5 warmup iterations).	14.7 \pm 1.5 (1.0)	13.5 \pm 1.1 (1.0)	13.4 \pm 1.0 (1.0)	16.4 \pm 1.5 (1.0)	19.0 \pm 1.7 (1.2)	14.7 \pm 1.2 (1.0)	13.6 \pm 1.0 (1.0)	14.7 \pm 0.9 (1.0)	11.4 \pm 1.1 (1.0)	18.3 \pm 1.5 (1.1)
remove row Duration to remove a row. (with 5 warmup iterations).	47.4 \pm 2.4 (1.1)	46.4 \pm 2.0 (1.1)	46.1 \pm 3.2 (1.1)	49.1 \pm 3.2 (1.1)	60.9 \pm 7.2 (1.4)	48.3 \pm 2.3 (1.1)	45.5 \pm 2.1 (1.1)	47.2 \pm 3.2 (1.1)	42.8 \pm 1.9 (1.0)	52.6 \pm 2.7 (1.2)
create many rows Duration to create 10,000 rows	3108.7 \pm 2162.2 (2.3)	1866.7 \pm 55.4 (1.4)	1946.0 \pm 41.8 (1.5)	2569.3 \pm 56.3 (1.9)	2543.4 \pm 42.8 (1.9)	3485.6 \pm 114.0 (2.6)	1862.0 \pm 25.0 (1.4)	1852.4 \pm 29.0 (1.4)	1331.1 \pm 22.2 (1.0)	1587.5 \pm 33.9 (1.2)
append rows to large table Duration for adding 1000 rows on a table of 10,000 rows.	454.8 \pm 42.1 (1.5)	365.1 \pm 52.3 (1.2)	324.6 \pm 10.1 (1.1)	524.2 \pm 23.6 (1.8)	489.6 \pm 34.1 (1.7)	5127.3 \pm 132.0 (17.4)	349.0 \pm 12.7 (1.2)	345.6 \pm 10.4 (1.2)	295.3 \pm 12.8 (1.0)	399.5 \pm 11.0 (1.4)
clear rows Duration to clear the table filled with 10,000 rows.	817.6 \pm 37.2 (4.7)	389.9 \pm 39.0 (2.2)	379.9 \pm 11.3 (2.2)	303.9 \pm 74.7 (1.7)	209.0 \pm 6.6 (1.2)	579.6 \pm 47.5 (3.3)	332.1 \pm 7.5 (1.9)	398.4 \pm 8.2 (2.3)	174.8 \pm 4.2 (1.0)	254.5 \pm 5.0 (1.5)
startup time Time for loading, parsing and starting up	118.1 \pm 5.1 (2.9)	104.9 \pm 8.6 (2.6)	84.3 \pm 2.6 (2.1)	245.2 \pm 5.6 (6.0)	80.4 \pm 3.5 (2.0)	60.3 \pm 2.5 (1.5)	44.2 \pm 2.2 (1.1)	70.0 \pm 2.9 (1.7)	40.5 \pm 9.5 (1.0)	56.6 \pm 2.5 (1.4)
slowdown geometric mean	1.69	1.36	1.31	1.72	1.55	2.10	1.21	1.30	1.00	1.21

Source: stefankrause.net/js-frameworks-benchmark6/webdriver-ts-results/table.html





~35k





Inferno

v7.3.2

Inferno is an insanely fast, React-like library for building high-performance user interfaces on both the client and server.

[Get Started](#)[GitHub](#)

React Compatible

React-like API, concepts and component lifecycle events. Switch over easily with `inferno-compat`.



Insane Performance

One of the fastest front-end frameworks for rendering UI in the DOM, making 60 FPS on mobile possible.

[See Our Benchmarks](#)

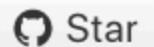
Isomorphic

Isomorphic rendering on both client and server, along with fast-booting from server-side renders.



PREACT

Fast 3kB alternative to React with the same modern API.

[SWITCH TO PREEACT](#)[GET STARTED](#)

Star

25,468

```
function Counter() {
```

[Run in REPL](#)

6 Testability



Traditional UI tests

Hassle to set up

Requires browser

Slow

Brittle integration tests

Time-consuming to write, maintain

React

Little to no config required

Run in-memory via Node

Fast

Reliable, deterministic unit tests

Write quickly, update easily



```
function HelloWorld(props) {  
  return (  
    <div>  
      | Hello {props.message}  
    </div>  
  )  
}
```

Reliable
Deterministic
No side-effects



Testing Frameworks



Mocha



Jasmine



Tape



QUnit

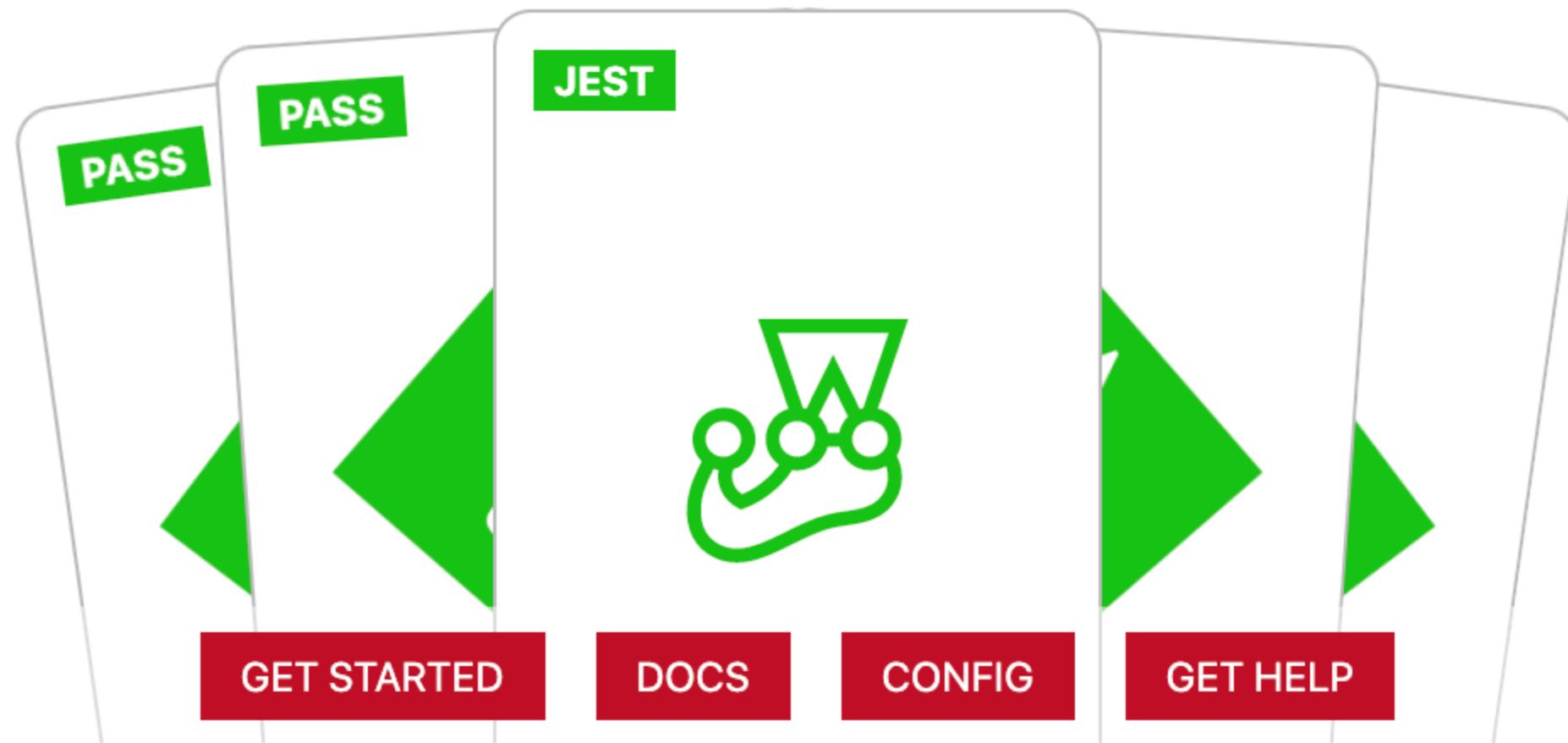


AVA



Jest



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Getting Started

[Introduction](#)[Guiding Principles](#)

Frameworks

[DOM Testing Library](#)[Introduction](#)[Install](#)[Example](#)[Setup](#)[Queries](#)[Firing Events](#)[Async Utilities](#)[Helpers](#)[Configuration](#)[FAQ](#)[Cheatsheet](#)[React Testing Library](#) [Introduction](#)[Example](#)[Setup](#)[API](#)

React Testing Library

[Edit](#)

[React Testing Library](#) builds on top of [DOM Testing Library](#) by adding APIs for working with React components.

```
npm install --save-dev @testing-library/react
```

 [Copy](#)

- [React Testing Library on GitHub](#)

The problem

You want to write maintainable tests for your React components. As a part of this goal, you want your tests to avoid including implementation details of your components and rather focus on making your tests give you the confidence for which they are intended. As part of this, you want your testbase to be maintainable in the long run so refactors of your components (changes to implementation but not functionality) don't break your tests and slow you and your team down.

This solution

The [React Testing Library](#) is a very light-weight solution for testing React components. It provides light utility functions on top of [react-dom](#) and [react-dom/test-utils](#) . in a way that encourages better testing practices. Its primary guiding

[The problem](#)[This solution](#)[Video](#)

Summary



Why React?

- Flexibility
- Developer experience
- Corporate investment
- Community support
- Performance
- Testability

Next up: Tradeoffs

