

# Introduction to Jest

---



**Daniel Stern**  
CODE WHISPERER  
`@danieljackstern`

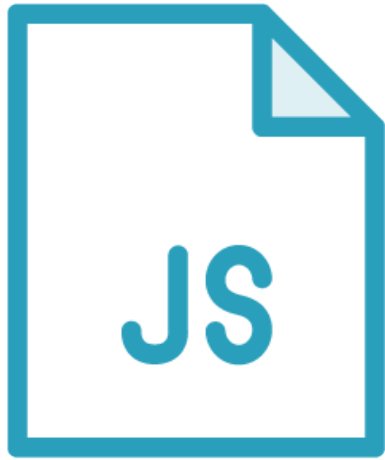


“In Jest, there is truth.”

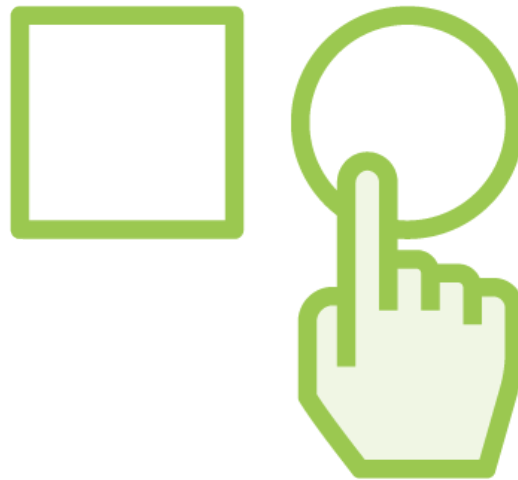
– William Shakespeare



# What Is Jest?



A library installed via NPM or Yarn and run via the command line



Similar to popular test-runners but with handy extra features



A tool made by a team including members of the React team

# Investigating Jest's Place in the Testing Ecosystem

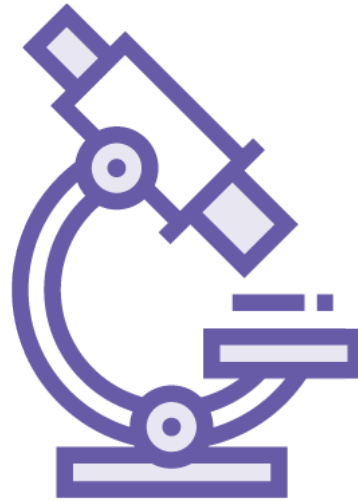
---



# Testing Tools



Jest



Enzyme



Jasmine/Mocha

# Jasmine/Mocha



Test-runner that organizes tests into “describe” and “it” blocks (or “suite” and “test”)



All assertions inside tests are verified whenever the test-runner is invoked, e.g., with command line

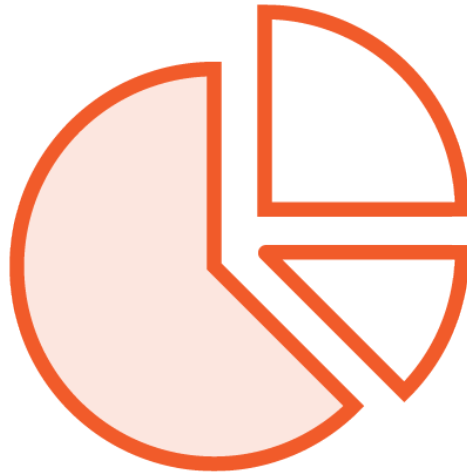


Doesn't include mocking or snapshots

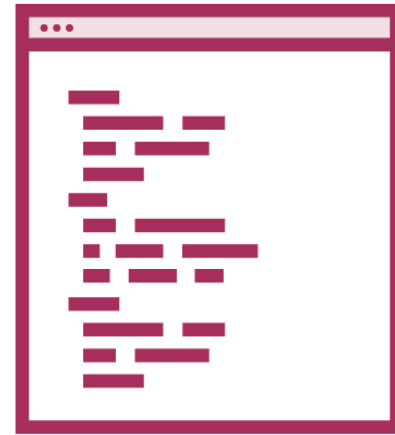
# Jest



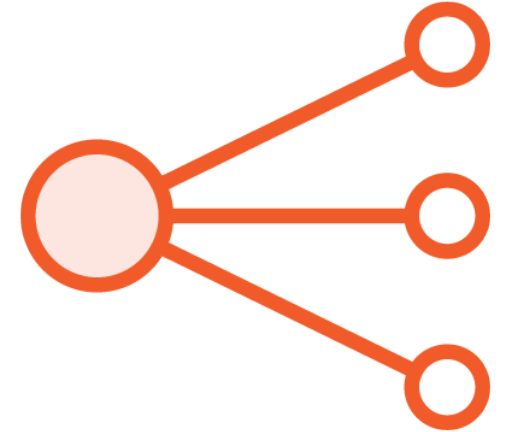
Built on top of  
Jasmine/Mocha



Adds snapshot  
testing, mocking  
and many other  
useful features



Includes  
superior  
assertion  
library, CLI



Works with or  
without React



# Enzyme



Not a test runner like Jest, but provides tools to test React apps specifically



Expresses component output as HTML (Like React Test Renderer)



Potentially useful but not for every project



# Jest vs. Mocha



# Jest vs. Mocha

**Jest**

**Mocha**

---



# Jest vs. Mocha

	Jest	Mocha
Runs tests	Yes	Yes



# Jest vs. Mocha

	Jest	Mocha
Runs tests	Yes	Yes
Asynchronous	Yes	Yes



# Jest vs. Mocha

	Jest	Mocha
Runs tests	Yes	Yes
Asynchronous	Yes	Yes
Spies included	Yes	No



# Jest vs. Mocha

	Jest	Mocha
Runs tests	Yes	Yes
Asynchronous	Yes	Yes
Spies included	Yes	No
Snapshot testing	Yes	No



# Jest vs. Mocha

	Jest	Mocha
Runs tests	Yes	Yes
Asynchronous	Yes	Yes
Spies included	Yes	No
Snapshot testing	Yes	No
Module mocking	Yes	No



# Jest & Jest CLI

## JEST

The actual test-runner library which  
you use to execute your tests

## JEST CLI

A tool that you use from the  
command line to run and provide  
configuration options to  
Jest (the test runner)

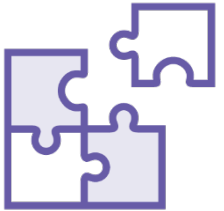




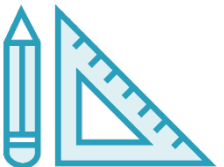
# Jest Versions



Latest version at time of making this course: 22.4.2



Expect slightly different API/methods when entering a real world project or moving from one workplace to another



Versions in  $0.*.*$  and  $1.*.*$  families work differently than version in the  $2.*.*$  family (which we are using)



“No one ever got fired  
for using Jest.”

– A wise developer



# Jest and React – What's the Connection?



For React applications, Jest is a test suite that is recommended by the React team

Due to its extensive feature set, Jest is also the tool of choice for testing many other applications

Both are connected to Facebook

In practice, they are frequently found together

Both are licensed under the MIT License



# How Does Using Jest Work in Practice?

---



# Practical Jest Usage 101



Watcher is triggered by NPM on development start script



CI suite runs tests and rejects failing PRs on integration server



Senior devs review coverage reports and CI hooks



End user is never aware of Jest, only that the application works



# Different Jest Skillsets

## Junior Developer

Proper use of “describe/it” or “suite/test” blocks

Understand which tests protect against regression and wrong functionality, and which are just “window dressing”

Practical strategies for resolving regression scenarios (not just disabling the test or updating the snapshot!)

Writing good, robust tests that properly utilize the existing APIs

## Senior Developer

Configure Jest via CLI arguments and the configuration file

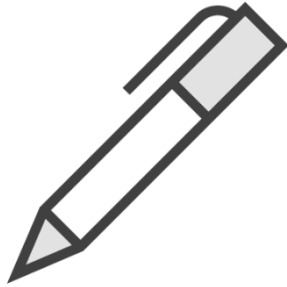
Package the correct Jest configurations into NPM scripts for usage by CI and junior developers

Analyze code coverage reports and test output in order to advise management

Writing tests that go beyond snapshots and truly verify the core functionality



# Common Jest Pitfalls



Tests are not written



No integration with  
version control



Jest is not integrated  
into devs' workflow



Devs skip tests  
instead of fixing them



No integration with  
Deployment / CI



Tests do not protect  
against critical errors

# Summary



Jest is a modern and widely-adopted test runner developed by a leading team

Awareness of Jest versions is important as familiar APIs can vary

Jest is like Mocha but with a host of additional features

Senior and junior developers need different Jest skills





# Coming up in the Next Module...



**Installing and Running Jest**

**Watching for Changes**

**Writing Tests**

**The BeforeEach Family of Globals**

**Skipping and Isolating Tests**

**Async Testing**

