

JavaScript Unit Testing with Jest

Writing Your First Unit Test with Jest



Gabriel McNeilly

QA Automation Lead

@gmcneilly software-tester.io

JavaScript Unit Testing with Jest

Version Check



Version Check



This course was created by using:

- JavaScript 2022
- Jest v29
- Node.js v18
- npm v8



Version Check



This course is 100% applicable to:

- JavaScript 2017 through JavaScript 2022
- Jest v29



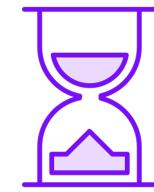
More testing

Less regression bugs

Better products



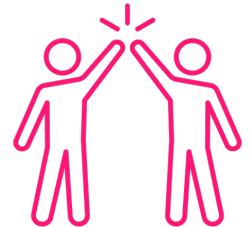
Why Write Unit Tests?



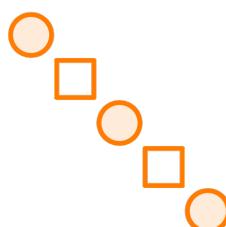
Manual testing takes too much time



Unit tests can be run automatically



Give us confidence in the quality of our source code



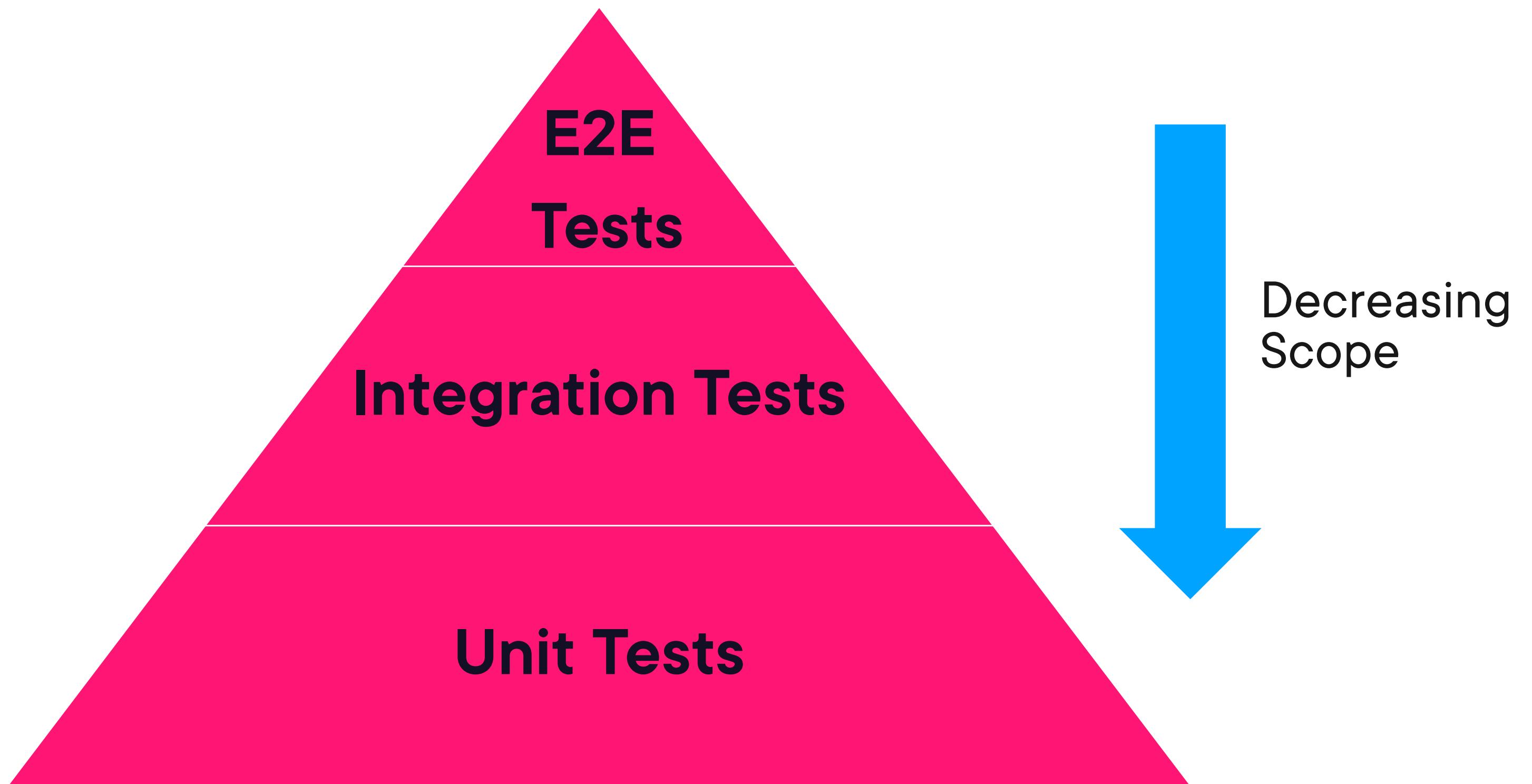
Can facilitate Test-Driven Development (TDD)

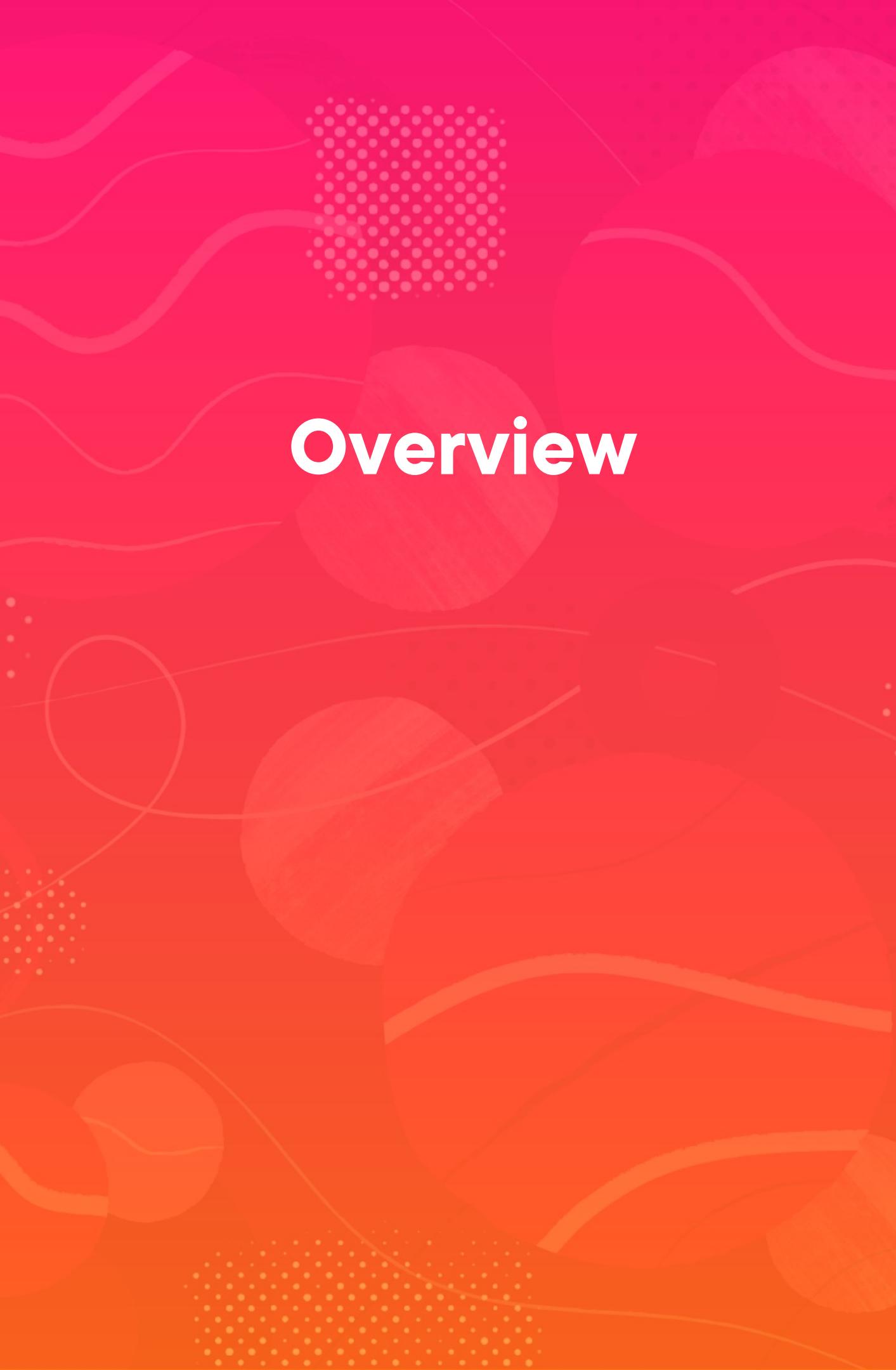


Can act like documentation



Test Pyramid





Overview

Why are unit tests so important?

Jest installation

Writing basic unit tests with Jest

Using common matchers

Using mocks

Testing asynchronous functions

Measuring code coverage



Getting Started with Jest



Key Benefits of Using Jest



No configuration required to get started



Highly intuitive API



Runs test in parallel



Works with the vast majority of JS projects



Great documentation and a large community





View application & project

Install Jest



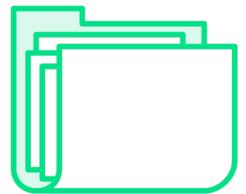
Jest Configuration & CLI



Jest Configuration Files



Jest.config.js|ts|mjs|cjs|json will be automatically discovered



Can specify an explicit path using --config



The config file must return a configuration object



Jest key in the package.json file



```
jest
```

◀ Runs all tests by default

```
jest <file name>
```

◀ Only runs the tests in the specified test file(s)

```
jest /tickets/*
```

```
jest --findRelatedTests <file names>
```

◀ Only runs tests that execute code in the specified source files

```
jest -o
```

◀ Only runs tests that execute code in source files that have been changed

```
jest -onlyChanged
```

```
npm test -- -onlyChanged
```

◀ The same as above

Key Takeaways

Unit Tests

- Prevent regression bugs
- Facilitate TDD

Getting Started with Jest

- Jest can be installed with npm or yarn
- What are the components of a Jest test?

Test File Structure

- Test hooks reduce duplication
- ‘Describe’ blocks group tests together

Jest Configuration & CLI

