Jest

Objective

- **Learn to write tests for your React application using Jest.**

Type of Tests

- Manual testing

- Documented manual testing

- End-to-end testing

- Unit tests

- Integration testing

- Snapshot testing

Why we need Testing?

- Quality Of Code & Design

- Find Issues & Bugs Early

- Functionality Documentation

To improve quality:

- Performance testing

- Usability testing

- Security testing
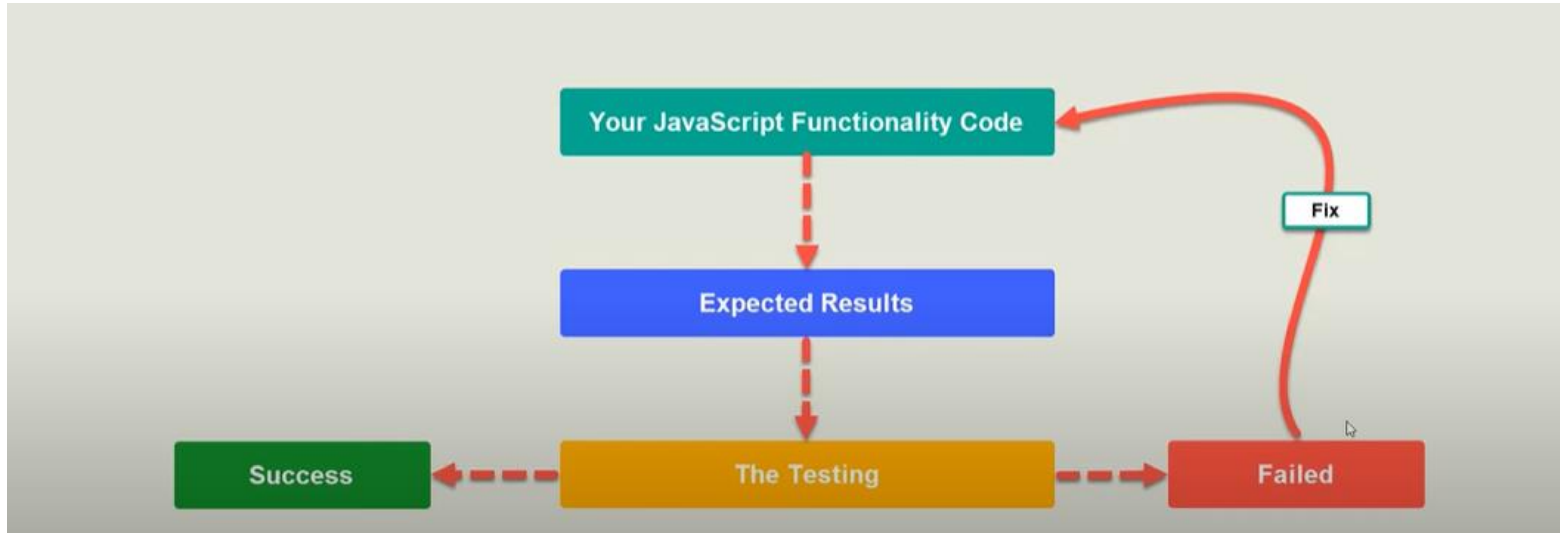
Testing Frameworks for React

- The official React documentation lists a number of tools that can be used for testing React apps

- Jest is automatically installed when you create a React app using the Create React App starter kit that we have been using throughout this level of the Bootcamp.

- We will use Jest to test React.

What Is Unit Testing ?

- Software Testing Method That Break Your Software To Pieces

- Tests Written And Run By The Software Developers .

- It Test a Section (Unit) In Your App To Ensure It Work And Behave Like Expected

- Unit Test Can Be For One Method

- Unit Test Can Be For The Whole Class in OOP

- Unit Test Can Be The Whole Module

- Unit Test Can Be Done For The Whole Procedure

- A Unit is The Smallest Testable Part of Any Software

Testing cycle

Testing Rules

1. Get The Function To Test.

2. Give Input To The Function.

3. Define What Is The Output

4. Check For The Output

TDD => Test Driven Development

1. Think About What Your Code Will Do

2. Write The Code

3. Test The Code

Jest Unit Testing

- The Jest test() module and expect() object can be used to write any number of unit tests.

- Below we create a test that tests a function that adds two numbers together.

```javascript
const sum = require('./sum');

test('adds 1 + 2 to equal 3', () => {
  expect(sum(1, 2)).toBe(3);
});
```

- Step 1: In the test directory, create a file called 'sum.test.js'

- Step 2: Add the code shown to 'sum.test.js' and save the file.

- Step 3: Run the test. From the command line interface, type **npm test** to run the test.

Resources

- [Elzero Web School](#)

- https://github.com/sapegin/jest-cheat-sheet