

# Front-end unit tests

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# Agenda

1. What is test
2. The Type of Tests
3. Why test ?
4. Demo
5. Summary

# What is testing?

Testing is code that checks the code you write in your app works as expected.

## About unit test?

Unit test is the test that tests the unit of code, whether they be functions, modules, or classes.

# The Types of Tests ( Test Pyramid )

E2E Test: Longer running time, high value cost

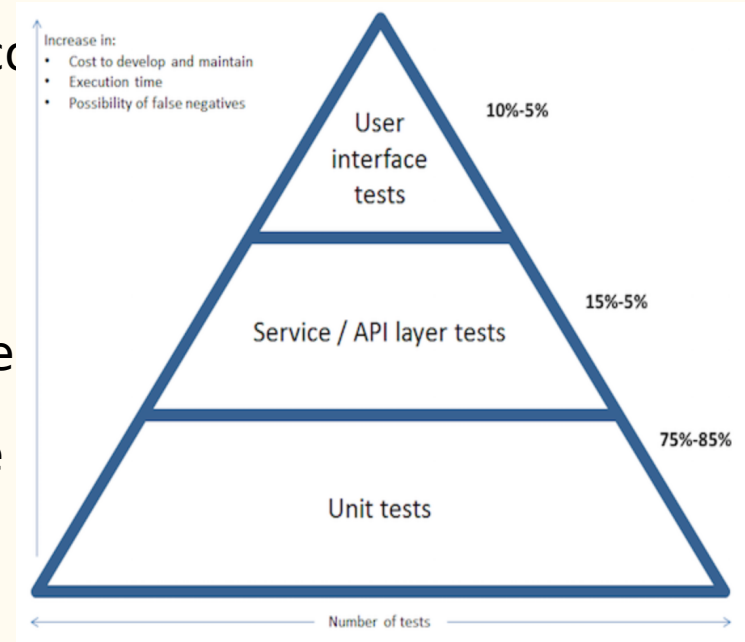
And higher maintenance cost

Integration Test (Feature test):

Running time and value in between

Unit Test: shorter running time, lower value

And lower maintenance cost



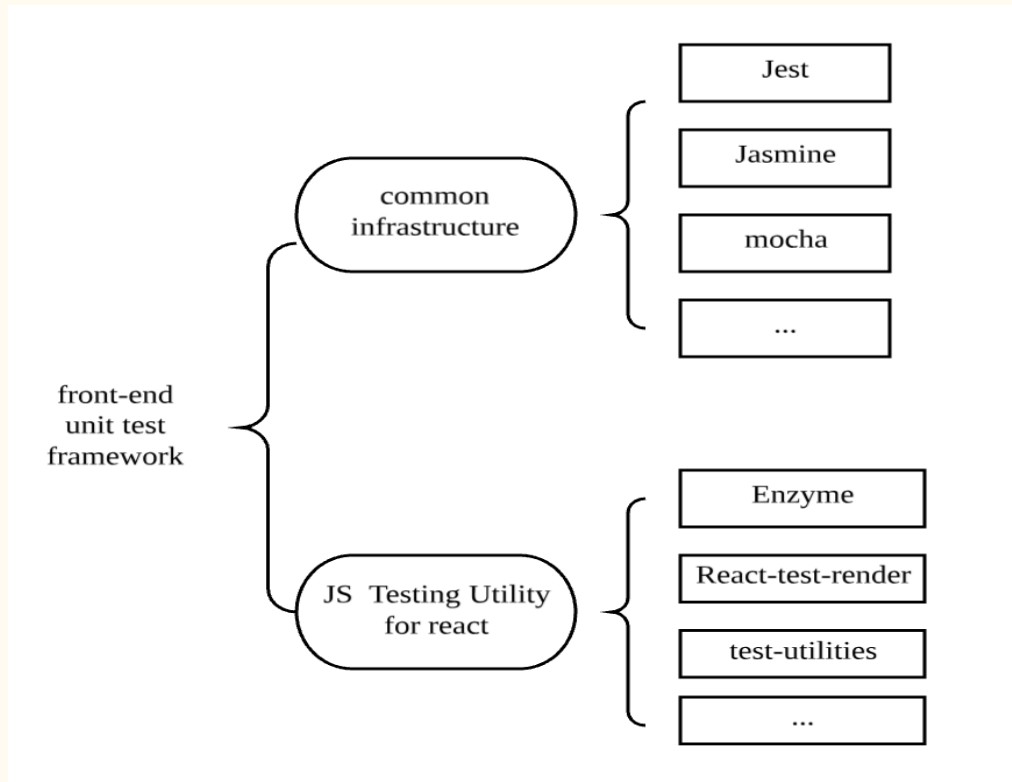
# Why Test?

1. When we develop a new feature, writing tests can help us :
  - organize our ideas
  - think of some boundary anomalies
  - ensure the quality of the code
  - increase our code confidence.

# Why Test?

2. When we want to modify existing code, such as: bug or refactoring, unit testing can ensure that we do not destroy existing features.

# Test framework for front-end



# Learning from the demo

Here is a story:

My name is Json, I am a front-end developer. Yesterday I got a story card from our BA. I have finished the development of the features of this card. Now I need to add the tests to verify the correctness of the code.

This is my code:

GitHub : [git@github.com](https://github.com/MHwishes/react-unit-test-demo):MHwishes/react-unit-test-demo.git



# Story AC:

AC1 : When user input a new todo-item, and the press enter, we can see the new todo item in the list.

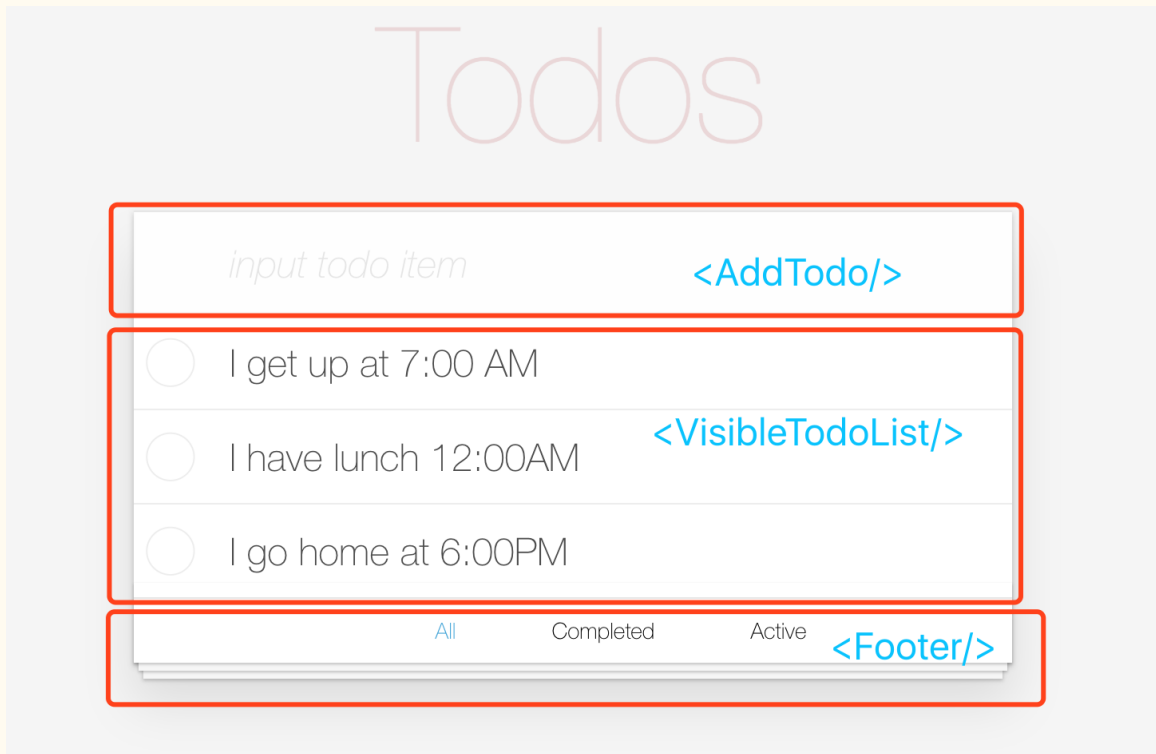
AC2: When user finish this todo-item, Click this todo-item, the item is marked as completed.

AC3: When user click footer `All` button, all the items should be show.

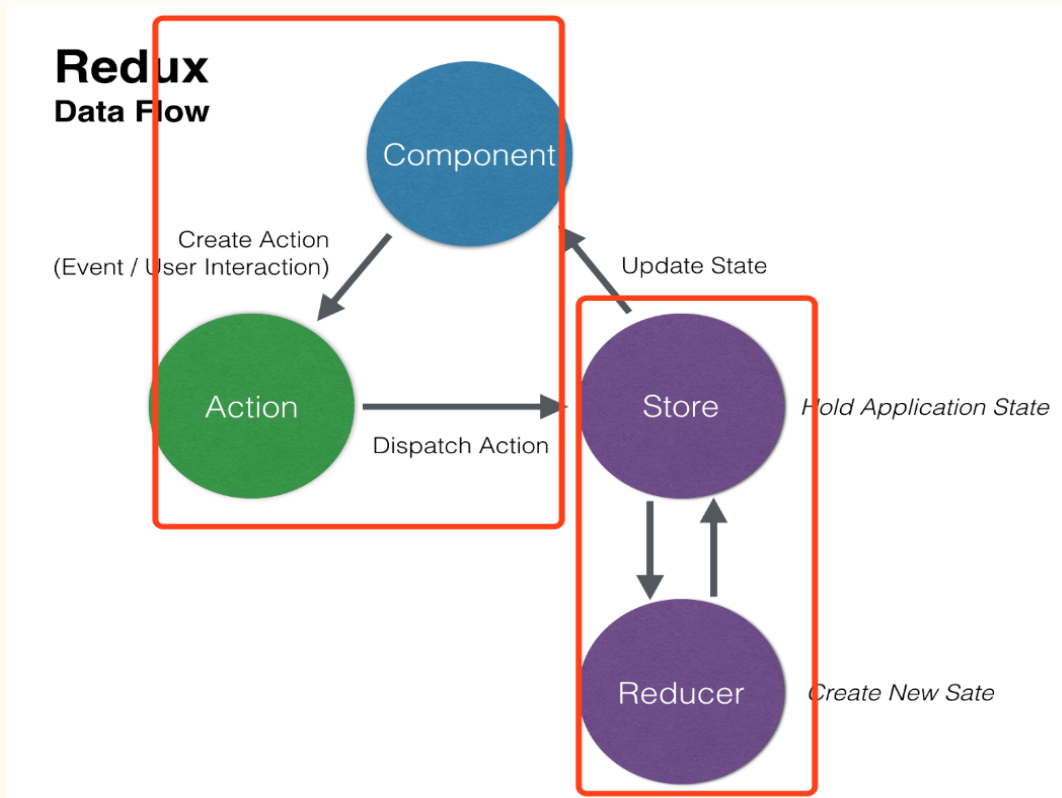
AC4: When user click footer `Completed` button, all the completed items should be show.

AC5: When user click footer `Active` button, all the unfinished items should be show.

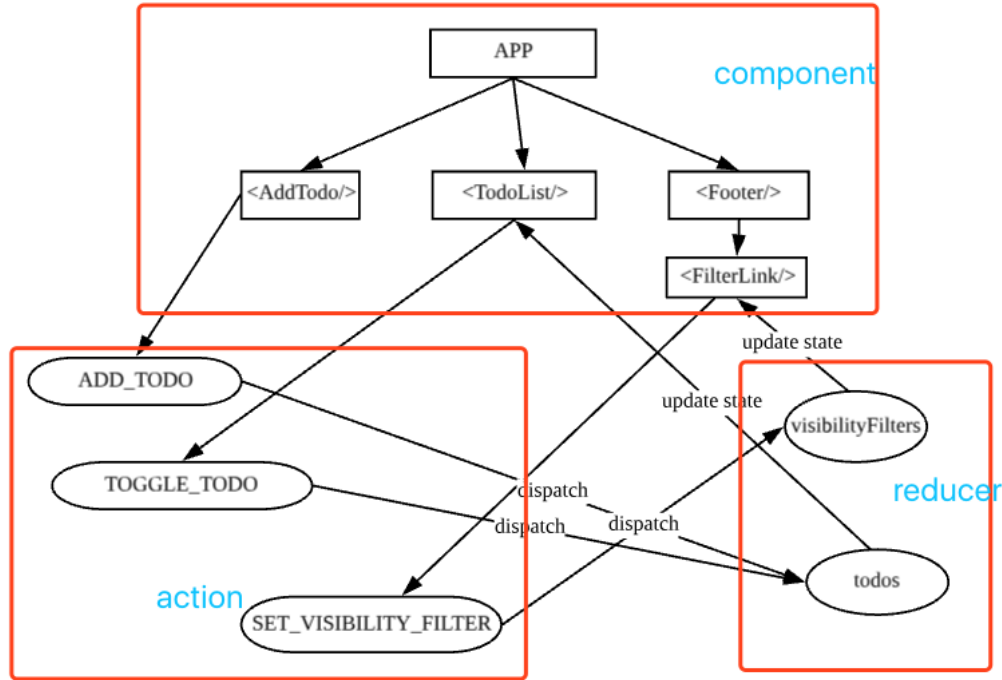
# Demo components



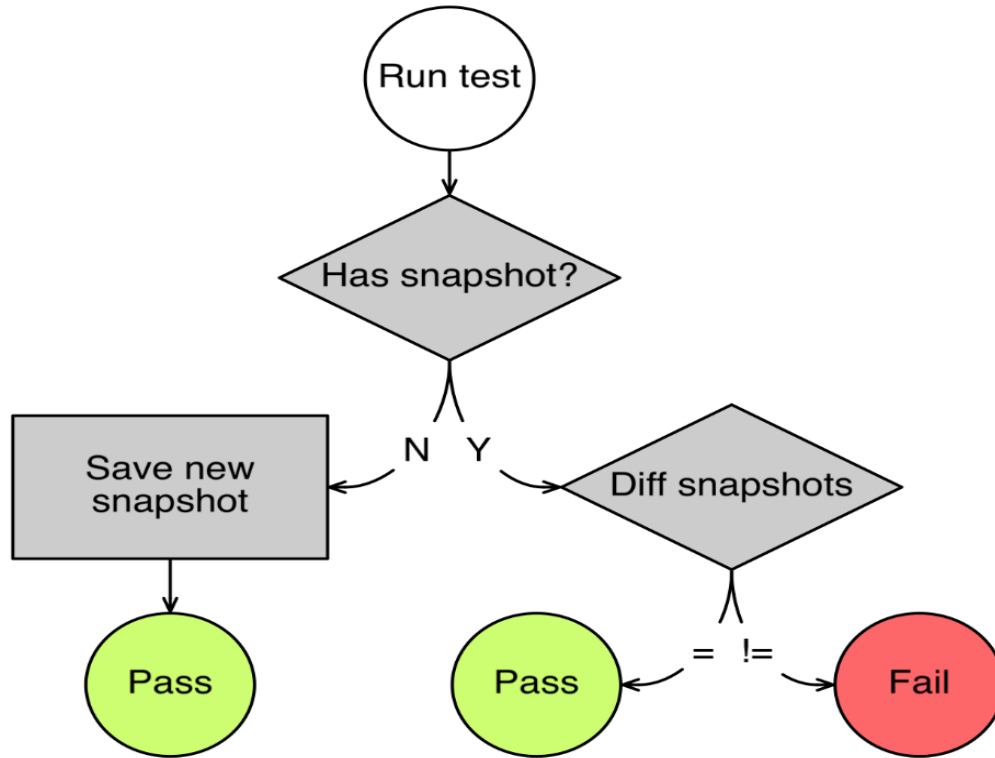
# How to split to write test?



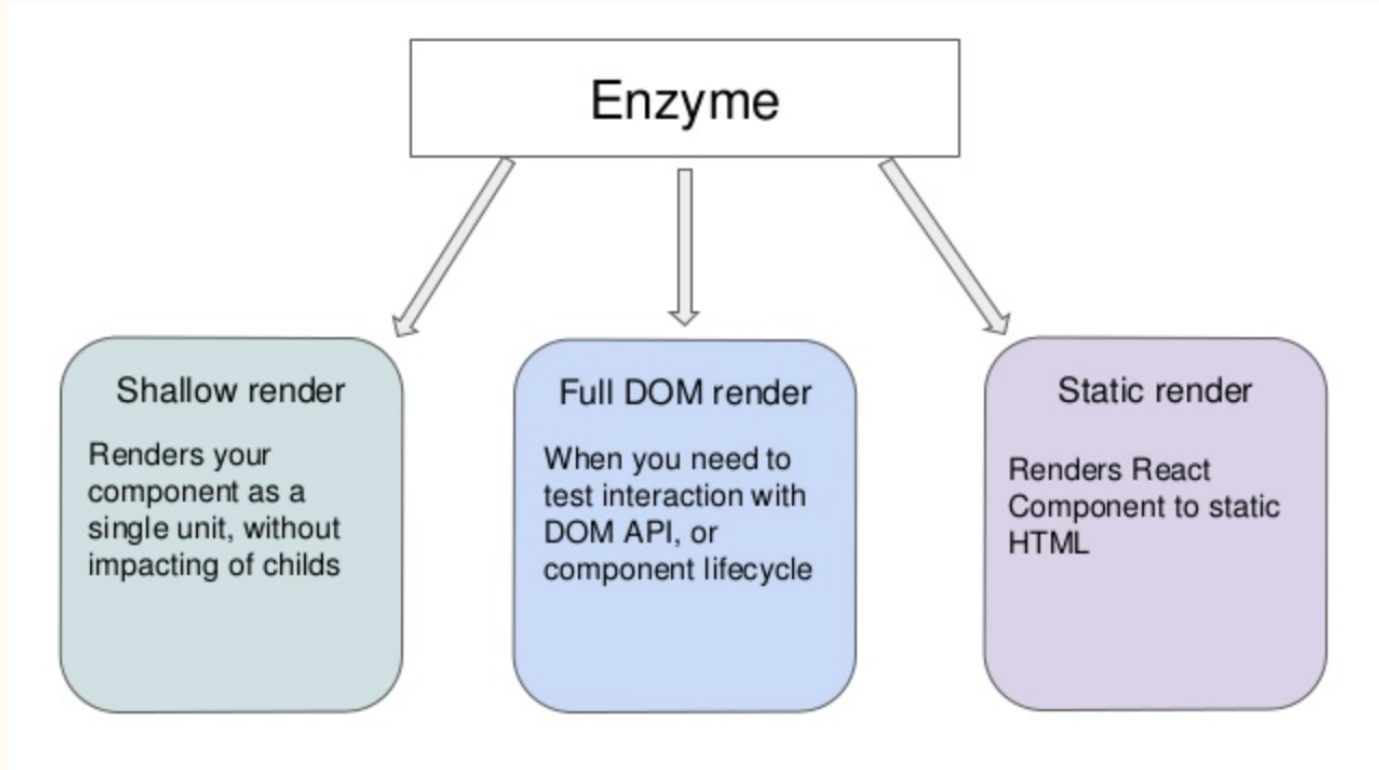
# Todo-list demo structure



# Snapshot flow



# The three rendering way of Enzyme



# Summary

What does the front-end need to test?

- Function , such as ordinary logic test
- Interface & Interactive Testing

# Summary

Reference document:

1. Snapshot Test : <https://jestjs.io/docs/en/snapshot-testing>
2. Enzyme : <https://airbnb.io/enzyme/>
3. Demo : <https://github.com/MHwishes/react-unit-test-demo>
4. <https://medium.com/codeclan/testing-react-with-jest-and-enzyme-20505fec4675>



Thank you