

03 Component Tests: Actions and Mocks

Testing React Apps

Testing the Contract

Inputs:

- ✓ Props
 - User interaction events

Outputs:

- ✓ Rendered UI
 - Calls to external functions

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To the code!

```
import {render, screen} from '@testing-library/react';
import userEvent from '@testing-library/user-event';

describe('NewMessageForm', () => {
  describe('pressing send', () => {
    it('clears the message field', async () => {
      const user = userEvent.setup();

      render(<NewMessageForm />);

      await user.type(screen.getByLabelText('Message'), 'Hello world');
      await user.click(screen.getByRole('button', {name: 'Send'}));

      expect(screen.getByLabelText('Message')).toHaveValue('');
    });
  });
});
```

userEvent 14

```
import userEvent from '@testing-library/user-event';  
  
const user = userEvent.setup();  
  
await user.click(element)  
await user.type(element, text);  
await user.clear(element);  
await user.selectOptions(element, values);
```

userEvent 14

- Create React App installs 13 by default
- Be sure to update to 14!

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      expect(screen.getByLabelText('Message')).toHaveValue('');
    });
  });
});
```


toHaveValue

Provided by Jest-DOM

```
expect(...).toHaveValue('input text');
```

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- Function Props
- Functions from hooks (including contexts)
- Functions statically imported from modules

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Function Props: Mock Functions

<https://jestjs.io/docs/mock-functions>



Creating a New Mock Function

```
const myMockFunction = jest.fn().mockName( 'myMockFunction' );
```


Mock Matchers

```
expect(myMock).toHaveBeenCalled();  
expect(myMock).toHaveBeenCalledWith(param, otherParam, ...);  
expect(myMock).toHaveBeenCalledWith(expect.any(String));
```

To the code!

```
it('calls the send handler', async () => {  
  const user = userEvent.setup();  
  
  const messageText = 'Hello world';  
  const sendHandler = jest.fn().mockName('sendHandler');  
  render(<NewMessageForm onSend={sendHandler} />);  
  
  await user.type(screen.getByLabelText('Message'), messageText);  
  await user.click(screen.getByRole('button', {name: 'Send'}));  
  
  expect(sendHandler).toHaveBeenCalledWith(messageText);  
});
```

Exercise 2

- `react-testing-exercises`
- `exercises/Exercise-2.md`

For help:

- testing-library.com/docs/user-event/intro
- jestjs.io/docs/mock-functions

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