04 **Component Tests: Effects and Module Mocks**

Testing React Apps

Testing the Contract

Inputs:

✅ Props
✅ User interaction events

Outputs:

✅ Rendered UI
- **Calls to external functions**

Types of External Function

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

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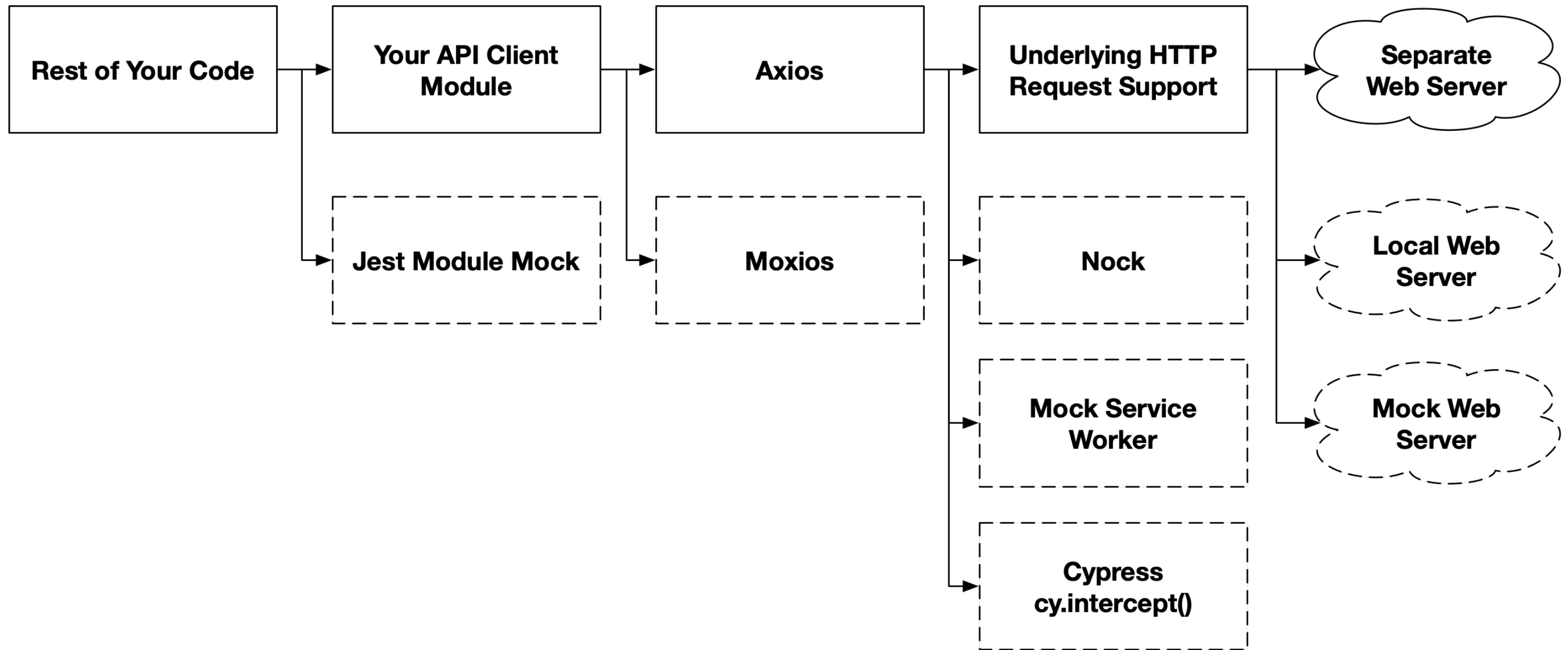- **Functions statically imported from modules**

Problem?

Hitting the real API

Options for Mocking Web Service Requests

Rest of Your Code → Your API Client Module → Axios → Underlying HTTP Request Support → Separate Web Server

Options for Mocking Web Service Requests

| Rest of Your Code | → | Your API Client Module | → | Axios | → | Underlying HTTP Request Support | → | Separate Web Server |

Jest Module Mock

Moxios

Nock

Local Web Server

Mock Service Worker

Mock Web Server

Cypress cy.intercept()

Jest Module Mocks

https://jestjs.io/docs/mock-functions#mocking-modules

To the code!

```javascript
import {render, screen} from '@testing-library/react';
import WidgetContainer from './WidgetContainer';
import api from './api';

jest.mock('./api');

describe('WidgetContainer', () => {
  it('loads widgets upon first render', async () => {
    api.get.mockResolvedValue(/* data */);

    render(<WidgetContainer />);

    expect(await screen.findByText('Widget 1')).toBeVisible();
    expect(screen.getByText('Widget 2')).toBeVisible();

    expect(api.get).toHaveBeenCalledWith('/widgets');
  });
});
```

— mockedModule.myfunc.mockReturnValue(val)

— mockedModule.myfunc.mockResolvedValue(val)

— mockedModule.myfunc.mockRejectedValue(val)

jestjs.io/docs/mock-function-api

Getter Functions

— screen.getByText

— screen.getByLabelText

— screen.getByPlaceholder

Query Functions

— screen.**query**ByText

— screen.**query**ByAltText

— screen.**query**ByTitle

— screen.**query**ByLabelText

Find Functions

— screen.**find**ByText

— screen.**find**ByAltText

— screen.**find**ByTitle

— screen.**find**ByLabelText

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Exercise 3

— react-testing-exercises

— `exercises/Exercise-3.md`

For help:
jestjs.io/docs/mock-functions#mocking-modules