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Front End Testing

Introduction

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Jest

Cheat Sheet

Code

Asynchronous Method Test

```
test("Testing an asynchronous method", async () => {

    // Assemble
    var myClass = new MyClass();

    // Act
    var s = await myClass.getString();

    // Assert
    expect(s).toBe("Hello World");
})

class MyClass {

    public getString(): Promise<string> {
        return Promise.resolve("Hello World");
    }
}
```

Mocking

```
test("Testing an asynchronous method", async () => {

    // Assemble - Mock the interface
    const mockEchoFunc = jest.fn((s: string) => Promise.resolve(s + s));

    const sut: IInterface = {
        double: mockEchoFunc
    }

    // Act
    var s = await sut.double("Moi");

    // How many times was the function called
    expect(mockEchoFunc.mock.calls.length).toBe(1);

    // What was it called with on the first invocation
    expect(mockEchoFunc.mock.calls[0][0]).toBe("Moi");
});

interface IInterface {

    double(s: string): Promise<string>;
}
```

Spying

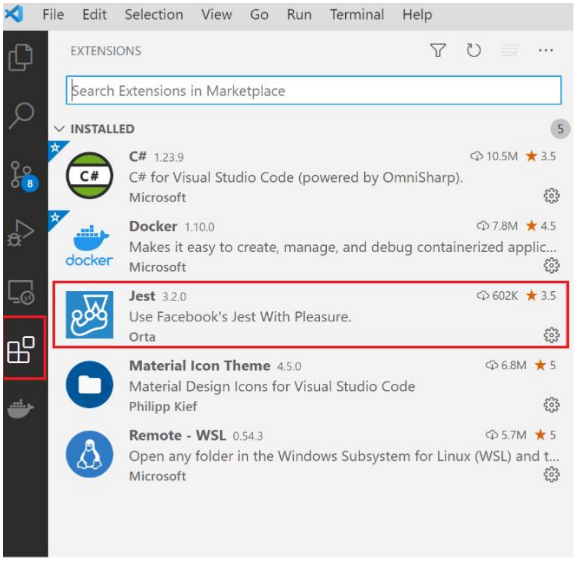
```
test("Spying Example", async () => {

    // Create an instance of class
    const original = new SourceClass();

    // Use spy to replace method invocation
    const overridenMethod = jest.spyOn(original,"serverCall");
    overridenMethod.mockReturnValue("Overriden Value");

    const result = original.serverCall();
    expect(result).toBe("Overriden Value");
});

class SourceClass
{
    public serverCall() : string
    {
        return "A Value from a server"
    }
}
```

Basic Development Environment Setup

The Jest documentation can be found here.

https://jestjs.io/

The Code shows how to setup a simple environment to test TypeScript code using Jest. To run the test first make sure you install the Jest VS Code Plugin.



C# 1.23.9 10.5M ★ 3.5
C# for Visual Studio Code (powered by OmniSharp).
Microsoft

Docker 1.10.0 7.8M ★ 4.5
Makes it easy to create, manage, and debug containerized applic...
Microsoft

Jest 3.2.0 602K ★ 3.5
Use Facebook's Jest With Pleasure.
Orta

Material Icon Theme 4.5.0 6.8M ★ 5
Material Design Icons for Visual Studio Code
Philipp Kief

Remote - WSL 0.54.3 5.7M ★ 5
Open any folder in the Windows Subsystem for Linux (WSL) and t...
Microsoft

Once installed make update the workspace settings so we show the Debug menu for tests that succeeded. The file `.vscode/settings.json` should contain the following section.

```
{
    "jest.debugCodeLens.showWhenTestStateIn": [

        "pass",
        "skip",
        "fail",
        "unknown",
    ]
}
```