

Mocha and Chai Testing!



Mocha & Chai

- Mocha is the test framework
- Mocha has a boat load of features we don't leverage
- Chai is the assertion library that enables TDD/BDD language
- Chai has a promisified assertion library for async tests

Mocha things!

- Lifecycle hooks (Before/After)
- Describe, Context, it
- Sandbox

Describe, Context, IT

- Describe (What am I testing)
- Context (Does this method handle multiple different contexts)
- IT (Test case)

Describe Style

- Describe('#Module')
 - Describe('Function')
 - IT('Happy path for function')

Test Style 1

- Describe('#module')
 - Describe('Function')
 - Describe('Test case')
 - BeforeEach(Setup)
 - SubjectEach (act)
 - IT('Assertion')
 - IT('Assertion')
 - IT('Assertion')
 - IT('Assertion')

Test Style 2

- Describe('#module')
 - Describe('Function')
 - Global variables shared between tests
 - IT('Test case')
 - Setup //Variables/Stubs specific to this test
 - Act //Invoke and await function result
 - Assert //Expects on side effects and

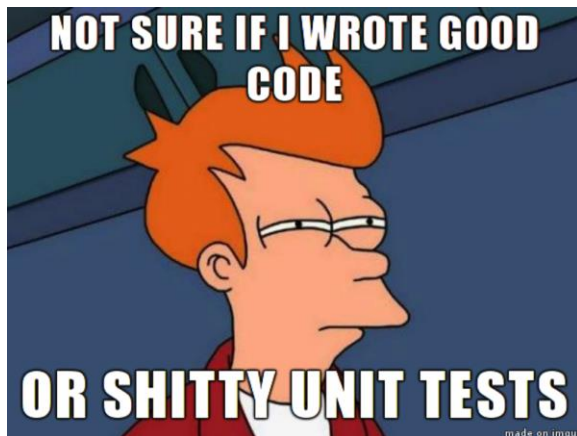
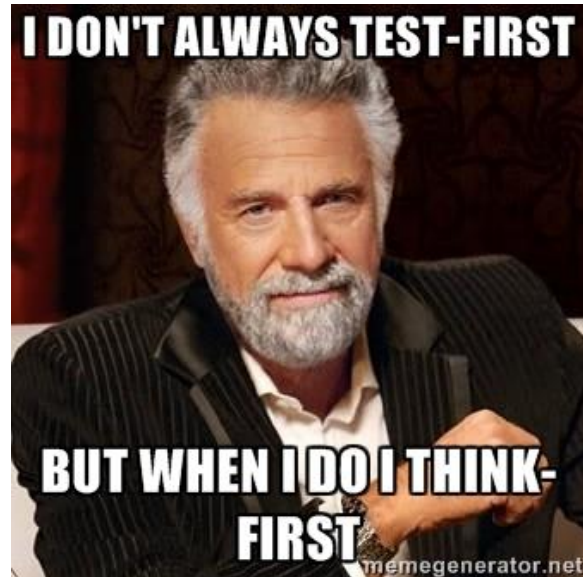
Stubs, Spies and Mocks

- Stubs replace functions/classes from a given library/module
- Spies partially replace functions/classes so non-stubbed things operate as normal
- Mocks fully replace the object

Oh no why won't my stubs work?!

- You might have a coupling, or dependency problem!
 - Is my transform logic alongside my RPC calls?
 - Is my code too coupled?
- My tests are timing out
 - You've probably missed a stub!

Types of Unit test



State driven tests

- Verifies that under certain conditions code returns the expected result
- State driven tests are often for simple functions like `formatGuid`
- State driven tests give us confidence our functions behave as expected

State Unit tests

- Look at code

Behavioral/Interaction driven Tests

- Verifies the test calls functions in an expected fashion
- Handler/CRUD tests are behavioral
- Behavioral tests often mock/stub libraries, or RPC calls
- Behavioral tests generally align with the business processes/value

Behavioral Unit tests

- Look at code

Async tests?!

- There's 3 ways to write tests
- 1 is completely wrong
- 2 work in different contexts (Use the right one)