MUnit

MUnit is a Mule application testing framework that allows you to easily build automated tests for your integrations and APIs. It provides a full suite of integration and unit test capabilities, and is fully integrated with Maven and Surefire for integration with your continuous deployment environment.

MUnit is integrated with Anypoint Studio allowing to create, design and run MUnit test for Mule applications.

Advantages:

* Create test by writing Mule code
* Minimize manual testing
* Mock processors
* Spy any processors
* Enable or ignore particular test
* Check visual coverage report
* Generate coverage reports

MUnit is divided into two main sub modules

* MUnit itself
* MUnit Tools

MUnit have scopes like set event, After Suite, Before Suite, After Test, Before Test, Test etc

MUnit tools include Mock, Assert equals, Assert that, Fail, Spy etc

* Mock when: mock an event processor when it matches the defined name and attributes. It is usually used when the actual endpoint is not available at the time to testing
* Spy: what happens before/after an event processor is called
* Verify call: verify if a processor is called and how many times it is called
* Assert uses dataweave function called MUnit matchers to define assertion conditions
* Matchers:
  + Core Matchers: withMediaType('application/json’)
  + String Matchers: containsString(String)
  + Comparable Matchers: greaterThanOrEqualTo(Comparable)
  + Iterable and Map Matchers: when expression is an array - isEmpty()

Structure of Test

**Behavior Scope:**

Meant to set all the preconditions before executing the test logic

Mock and Spy go in this session

**Execution Scope:**

Meant to have the testing logic which will wait for all processes to finish before executing the next scope

**Validation Scope:**

Validation regarding the result of the execution scope

Coverage report

The Overall Coverage value represents the percentage of the Mule application event processors that have been executed by the MUnit test.

Additionally, you can click in each Resource, to get a more specific and granular report of the Event Processors executed in that resource.