Integration Testing a Mule

Antoine Borg
Senior Consultant
Ricston Ltd
Build Integration Tests

Learn how to build integration tests for Mule 2
Who Am I?

- Senior Consultant with Ricston Ltd
- Frequently lectures courses for developers, architects and sysadmins on Mule 1.x and 2.x across Europe
- Consulting and assisting our customers in Mule deployments across USA, Europe and Australia
- Co-author of “Mule 2: A Developer’s Guide”
- Mule & SOA blog at http://blog.ricston.com
Integration testing is all about testing the complexity and the routing of messages from one service to another.

With Mule, this is simple.
Mule - Defined

- An open source ESB
- Includes all the Enterprise Integration Patterns
  - http://www.enterpriseintegrationpatterns.com
- Spring based XML configuration
  - http://www.mulesource.com
- Currently at version 2.1.2
  - Community Edition
  - Enterprise Edition
Complexity

- Individual services are easy to test:
  - POJOs = Unit Testing
  - Bridge components = Nothing to test!
- Services interact with others:
  - Complexity is in the integration
  - Routing logic, transformations, filters, interceptors, etc
- How can we interact with a Mule server?
The MuleClient

- The MuleClient class:
  - Direct communication with a Mule server
  - Communication along an endpoint
  - `org.mule.module.client.MuleClient`
  - `dispatch(String, MuleMessage)`
  - `send(String, MuleMessage, int)`
  - `request(String, Long)`
- What is a MuleMessage?
The MuleMessage

Properties

Payload

Attachments

1 2 3
Mule’s JUnit class

- Mule has its own JUnit class:
  - `org.mule.tck.FunctionalTestCase`

- Inherit from this class:
  - To construct and initialise a Mule server
  - To communicate with the Mule server
  - Need to indicate where the config file is
    - `getConfigResources()`
Testing a simple Mule application
Summary

- Integration testing – the complexity is the integration
- Mule is no different, but testing is still simple
- Unit testing skills can be re-used
- FunctionalTestCase
- MuleClient and MuleMessage
Concluding statement

Integration testing (with Mule) is simple
Q&A

Do you have any questions?
Thanks for your attention!

http://blog.ricston.com
http://www.mulesource.org