



Test Automation

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(Day 1 of 4)



Test Automation Class Overview

- Less than twelve hours to learn “Test Automation”
- Automation of Browser Client
 - Record and Playback (Day 1) <= YOU ARE HERE
 - Record and Playback (Day 2)
 - Write code (Day 3)
 - Write code (Day 4)



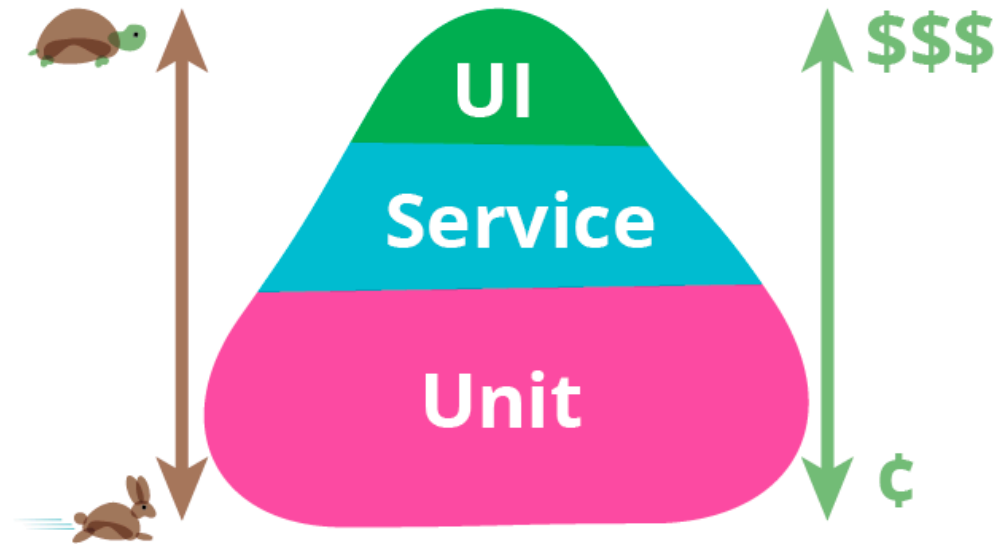
Why Automate?

- Automation is expensive
 - Development takes time and has to be de-bugged
 - Brittle tests are “The child who cried wolf”
 - Automation will generate LOTS of test result data – WHO READS IT?
- Time is Money
 - Number of products in active development
 - Number of “Legacy” products
 - “Sprint” duration and frequency of “release to production”
- What do we test with automation?
 - New features
 - Regression tests (escapes)



Test Automation Pyramid - M. Fowler

- <https://martinfowler.com/bliki/TestPyramid.html>
- “The pyramid also argues for an intermediate layer of tests that act through a service layer of an application... These can provide many of the advantages of end-to-end tests but avoid many of the complexities of dealing with UI frameworks. In web applications this would correspond to testing through an API layer while the top UI part of the pyramid would correspond to tests using something like Selenium.”
- “I always argue that high-level tests are there as a second line of test defense. If you get a failure in a high level test, not just do you have a bug in your functional code, you also have a missing or incorrect unit test.





How to Automate?

- Still need to think
- Still need to have a test plan
- Should I automation all the test?
 - What do I test with automation?
 - What do I test with manual testing?

CONCLUSION:

“[Browser based] Automation was largely solved 5 years ago. The infrastructure and operational procedures around the automation environments remain a huge business risk. - Are the machines optimized (Performance and cost)? Can they be rebuilt if destroyed? Are they secured? Same wiring as production? Can they scale up/down? Etc.”

-- Adam Goucher



DEMO

- JIRA Tickets
- Test Rail Test Case
- Run Automation from Laptop
 - Able to “point the test” at different environment
 - Why do I want “point the tests” at a different environment?
- Run Automation from Jenkins
 - Some are scheduled to run
 - Some at manually triggered



QUIZ

You should write test automation when:

- A. ___ You are in a good mood
- B. ___ You have a good idea of the deliverable but the UI is not finished
- C. ___ The feature is a "corner case" and is covered by manual tests
- D. ___ You have a computer science degree
- E. ___ The feature is something every customer will need
- F. ___ The feature is used once a quarter by your biggest customer

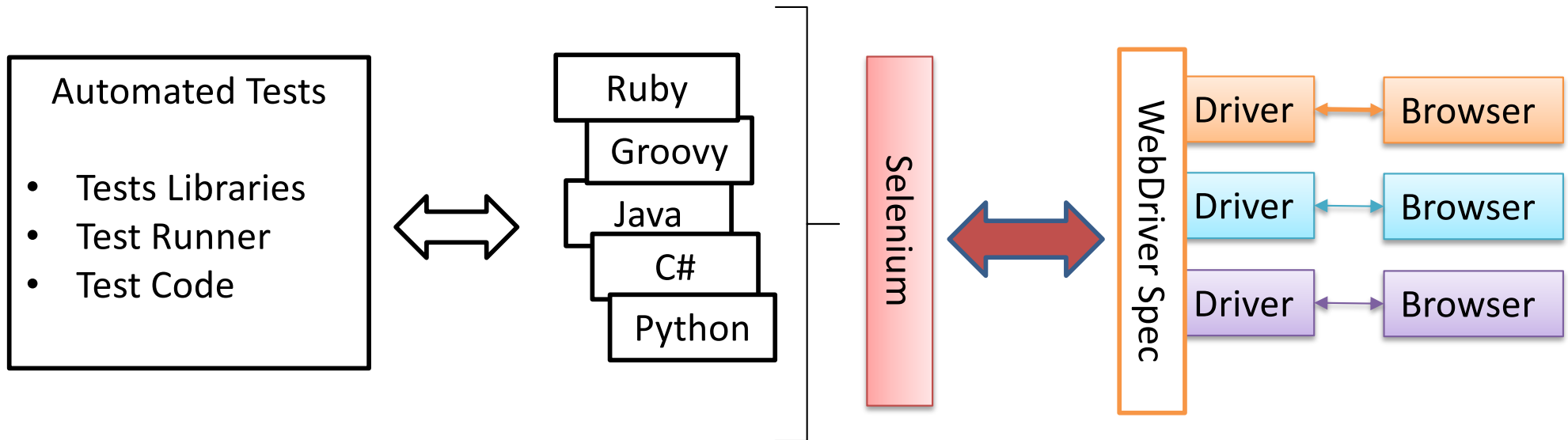


To automate a Browser Client

- HTML / DOM
- Browser Developer tools
- Writing Code
 - Text Editor and CLI (console)
 - Programming language
 - Git (Version Control)
 - Software Engineering
- AUTOMATION SPECIFIC LIBRARIES for a programming language



Browser Tool Stack



- Browser Vendors create automation drivers which conform to the W3C WebDriver Specification
- Selenium has bindings for lots of programming languages and talks to the browser specific driver
- Automated Tests are “test libraries,” a “test runner,” and “test code.”



Test Client Setup - REVIEW

- Console (CLI)
 - Navigate directory tree
 - Run commands

▶ onsource	Dec 6, 2018 at 2:12 PM
▼ QA	Dec 26, 2018 at 6:59 PM
config.rb	Mar 6, 2018 at 5:15 PM
CoreRegressionList.txt	May 30, 2018 at 11:22 AM
crmAutomationList.txt	Mar 6, 2018 at 5:15 PM
DataVisionRegressionList.txt	Sep 13, 2018 at 7:46 PM
downloads	Yesterday at 11:07 AM
drivers	Nov 13, 2018 at 12:14 PM
Gemfile	Dec 17, 2018 at 1:40 PM
Gemfile.lock	Dec 14, 2018 at 2:40 PM
interactive.rb	Dec 17, 2018 at 1:33 PM
lib	Dec 18, 2018 at 5:41 PM
login_data.yml	Dec 17, 2018 at 1:33 PM
loginRegressionList.txt	Mar 6, 2018 at 5:15 PM
Rakefile	Dec 26, 2018 at 6:59 PM
README.md	Oct 31, 2018 at 6:28 PM
resources	Jun 20, 2018 at 7:26 PM
▼ spec	Dec 13, 2018 at 3:02 PM
▶ api	Mar 6, 2018 at 5:15 PM
▶ bin	Sep 27, 2018 at 8:42 PM
▶ crm	Nov 9, 2018 at 1:24 PM
▶ dm	Dec 18, 2018 at 5:41 PM
▶ gbb	Mar 6, 2018 at 5:15 PM
▶ mobilehoovers	Dec 17, 2018 at 1:33 PM
▶ os	Dec 18, 2018 at 5:41 PM
▶ ps	May 14, 2018 at 8:42 PM



Test Client Setup - REVIEW

- Text Editor
 - A text editor is a type of computer program that edits plain text.
 - Plain text consists of characters (ONLY)
 - Rich text, on the other hand, will contain metadata
 - character formatting data (e.g. typeface, size, weight and style),
 - paragraph formatting data (e.g. indentation, alignment, letter and word distribution, and space between lines or other paragraphs) and
 - page specification data
 - Hands-On: create a text file with a text editor



Test Client Setup - REVIEW

1. Install Git / GitHub Account
 1. Git Clone from a GitHub account
 2. Be able to commit changes to you local repo

2. Install Katalon
 1. <https://www.katalon.com/sign-up/>
 2. Product is Free - Need to create and REMEMBER an account
 3. <https://www.katalon.com/sign-in/>



Record and Playback – Hands On

1. Automated Testing with Katalon

1. What product? - <http://demoaut.katalon.com>

2. What use case?

Take 15 minutes to “play” with the product and write three “use case” description.

Example:

“I can login and make an appointment”

2. DEMO & HANDS ON



Test Client Setup - REVIEW

1. Install Ruby - <http://watir.com/guides/ruby/>
 1. Windows
 2. MacOS
2. Install Chrome Browser
3. Install 'chromedriver'
 1. <https://chromedriver.storage.googleapis.com/index.html>
 2. Place binary in your 'PATH'
 3. 'chromedriver -version'
 4. Version must match the Chrome Browser
4. Install Ruby Libraries
 1. 'gem install watir'
 2. 'gem install rspec'



Questions?

- Continuous to Learning:
 - Do another Record and Playback
 - <https://medium.com/katalon-studio/a-sample-web-automation-test-project-9c532237c2bd>
 - Read about WATIR
 - <http://watir.com/guides/>
 - Review HTML Elements
 - <https://www.w3schools.com/html/default.asp>
- Lite Reading:
 - <https://applitools.com/blog/language-software-test-automation>