

Selenium...

...how it came to be, what does it do, and how to use it

Ana Prpic,

QA Engineer @OradianHQ

Twitter: @a_prpic

Mail: aprpic@gmail.com

WE ARE HIRING!!



...talk to me later if you're interested in working with me!



What is Selenium?

Selenium is a suite of tools for automating web browsers across platforms



“Selenium is a software testing robot, sent from the future to help us test websites”

-Jason Huggins

What does it do?

- Mimics human action
- Does so by leveraging *locators*
 - they tell Selenium which HTML element to interact with
- ... some common actions:
 - `getUrl()`, `click()`, `submit()` etc.





Selenium Suite

- Selenium IDE
- Selenium
WebDriver
- Selenium Grid
- Selenium RC

How it all started

Selenium Core

- 2004. - Jason Huggins - ThoughtWorks
- Table-based syntax
- “*JavaScriptTestRunner*”
- Open-sourced in 2004.

Table syntax?

- Each row represents a command for browser to execute
- It is split into three columns:
 - The first column - name of the command to execute
 - The second column - element identifier
 - The third column - optional value

Example

<i>command</i>	<i>element</i>	<i>value</i>
open	/mytestpage	
type	#nameField	Rick Sanchez
click	#submitButton	
verifyText	#name	Rick Sanchez

Selenese commands

→ Actions

- `click()`
- `select()`

→ Accessors

- `storeTitle()`

→ Assertions - three modes:

- ◆ `assert` - `assertTitle()`
- ◆ `verify` - `verifyText()`
- ◆ `waitFor` - `waitForElementPresent()`

“The same origin policy”

- “The same-origin policy restricts how a document or script loaded from one origin can interact with a resource from another origin. It is a critical security mechanism for isolating potentially malicious documents.”
([Same-origin policy, MDN](#))

Selenium Remote Control

- Paul Hammant - Selenium server - every request can be intercepted by Selenium
 - ➔ This opened up the possibility of writing Selenium bindings in multiple languages

Selenium IDE

- Shinya Kasatani
- Firefox add-on
- Record & Playback
- Donated to the Selenium Project in 2006.
- No longer supported

(Applitools engineers working on a complete re-write!)

Selenium WebDriver

- 2007. Simon Stewart - ThoughtWorks - wanted a tool that spoke directly to the browser using “native” method for the browser and the OS
 - *Selenium RC* - dictionary-based API - wide range of languages
 - *Selenium WebDriver* - object-oriented API - Java

- 2009. The two projects announced merger
- Supported languages include Java, C#, Python, Ruby etc.
- Supported browsers: Chrome, Firefox, IE, Opera
- The original RC is deprecated, but is still running in maintenance mode

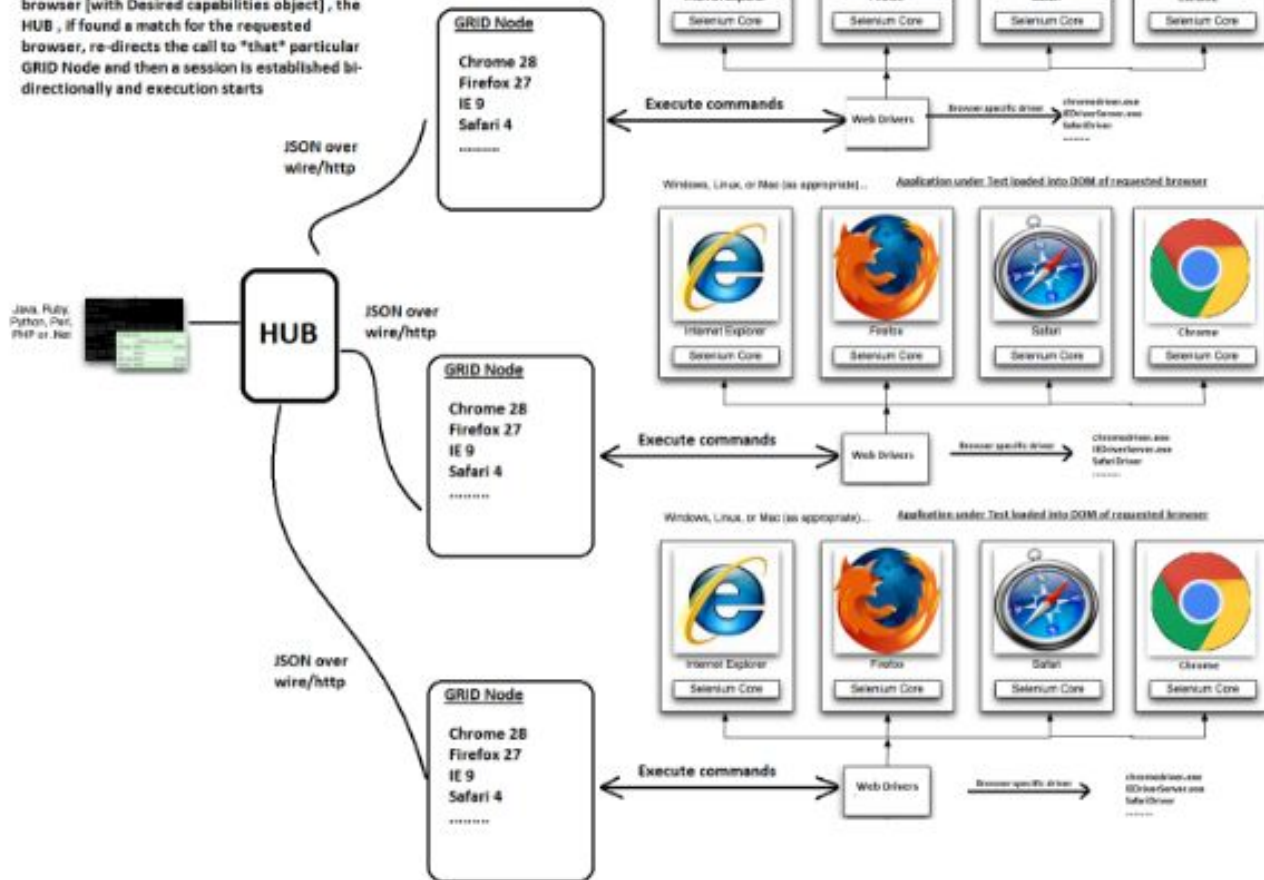
Selenium Grid

- Patrick Lightbody
- Parallelisation!
- Uses “Hub & Node” concept
 - SauceLabs, BrowserStack, TestingBot, Ghostlab, CrossBrowser Testing etc.

Selenium GRID is a network of HUB & "Nodes".

Each node registers to the HUB with a certain configuration and HUB is aware of the browsers available on the node

When a request comes to the HUB for a specific browser [with Desired capabilities object], the HUB, if found a match for the requested browser, re-directs the call to "that" particular GRID Node and then a session is established bi-directionally and execution starts

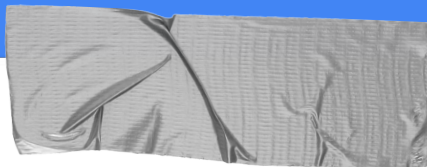


(from ToolsQA)

Selenium today

- WebDriver rules
- Support for ALL major browsers
- Every major programming language
- Selenium Server has grid capabilities built-in

Demo time!



Selenium Tests

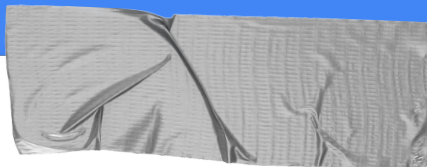
- Create a WebDriver instance
- Navigate to a Web page
- Locate an HTML element on the Web page
- Perform an action on an HTML element
- Anticipate the browser response to the action
- Run tests and record test results using a test framework
- Conclude the test

Demo

- We're going to automate THE INTERNET!
 - the-internet-herokuapp.com by Dave Haeffner ([blog](#))
 - “Form Authentication” example

Next Step - dive in yourself!

- **Resources (blogs, videos, documentation, webinars etc.):**
 - [Beaufort Fairmont](#) - webinars
 - [Test Talks](#) - podcast
 - [WebdriverIO](#) - official docs
 - [JavaScript](#) - Reference Docs
 - [Setting Up an End-to-End Testing Workflow with Gulp, Mocha, and WebdriverIO](#) - blog
 - [SeleniumConf Talks](#)
 - [Automate The Planet](#) -blog
 - etc.



Recap

- Selenium History
- Selenium Today
- Selenium Demo
- Next steps



Thank you!

Questions?

?????

?????

?????