

Functional Testing your Grails app with GEB

gr8conf.us

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GEB

What is it?

Geb

(pronounced "jeb")

- <http://www.gebish.org>
- <https://github.com/geb/geb>

Geb

=

Webdriver

+

Groovy

+

JQuery like Content Selector

+

Page Object model

History

Started in 2009 by Luke Daley

v0.1 in 2010

0.9.2 = current

Just like winter,

1.0 is coming.

Uses

Testing!

Screen scraping

Automating

WebDriver

- Selenium
- Selenium RC
- Selenium 2.0 aka WebDriver
- Selenium Grid

Selenium RC < WebDriver

WebDriver

Code -> Driving -> Real Browser

{ Chrome, Firefox, Internet Explorer,
Safari, PhantomJS, HtmlUnit,
Android, iOS, Remote }

Example

```
// Create a new instance of the html unit driver
// Notice that the remainder of the code relies on the interface,
// not the implementation.
WebDriver driver = new HtmlUnitDriver();

// And now use this to visit Google
driver.get("http://www.google.com");

// Find the text input element by its name
WebElement element = driver.findElement(By.name("q"));

// Enter something to search for
element.sendKeys("Cheese!");

// Now submit the form. WebDriver will find the form for us from the element
element.submit();

// Check the title of the page
System.out.println("Page title is: " + driver.getTitle());

driver.quit();
```

<https://code.google.com/p/selenium/wiki/GettingStarted>

Grails plugin

<http://grails.org/plugin/geb>

```
compile ":geb:0.9.2"
```

Testing with Grails

BuildConfig.groovy

```
dependencies {  
    test("org.seleniumhq.selenium:selenium-chrome-driver:$seleniumVersion")  
    test("org.seleniumhq.selenium:selenium-firefox-driver:$seleniumVersion")  
  
    // You usually only need one of these, but this project uses both  
    test "org.gebish:geb-spock:$gebVersion"  
    test "org.gebish:geb-junit4:$gebVersion"  
}
```

GebConfig.groovy

```
driver = { new ChromeDriver() }  
  
environments {  
    // run as "grails -Dgeb.env=chrome test-app"  
    // See: http://code.google.com/p/selenium/wiki/ChromeDriver  
    chrome {  
        driver = { new ChromeDriver() }  
    }  
  
    // run as "grails -Dgeb.env=firefox test-app"  
    // See: http://code.google.com/p/selenium/wiki/FirefoxDriver  
    firefox {  
        driver = { new FirefoxDriver() }  
    }  
}
```

<http://www.gebish.org/manual/current/all.html#grails>

Basic Example

<http://github.com/geb/geb-example-grails>

Content Selection

`$ («css selector», «index or range», «attribute / text matchers»)`

```
$("a", class: "brand")
```

```
$("div.some-class p:first[title='something']")
```

```
$("div.footer").find(".copyright")
```

Interactions

```
click()
```

Sending Keystrokes:

```
$("#input", name: firstName) << asdf  
$("#input", name: "firstName") << Keys.chord(Keys.CONTROL, "C")
```

WebDriver API directly:
Actions, Drag and Drop, interact {...}
Control-click, etc.

```
interact {  
  clickAndHold($('#element'))  
  moveByOffset(400, -150)  
  release()  
}
```

waiting

```
waitFor {} // use default configuration
```

```
// wait for up to 10 seconds, using the default retry interval  
waitFor(10) {}
```

```
// wait for up to 10 seconds, waiting half a second in between retries  
waitFor(10, 0.5) {}
```

```
// use the preset "quick" as the wait settings  
waitFor("quick") {}
```

```
Browser.drive {  
  $("input", value: "Make Request")  
  waitFor { $("div#result").present }  
  assert $("div#result").text() == "The Result"  
}
```


Javascript

Special 'js' object

- read global scope

```
js."document.title" == "Book of Geb"
```

```
js.gloallyVisibleJavascriptFunction(1,2)
```

- js.exec()
- Executes arbitrary Code

```
js.exec(1, 2, "return arguments[0] + arguments[1];") == 3
```

jQuery Support

Built-in Support for jQuery

```
js.exec 'jQuery("div#a").mouseover();'
```

is equivalent to:

```
$("div#a").jquery.mouseover()
```

...

- Direct downloading
- alert(), confirm() support
- Multiple windows
- Untrusted Certificate handling
- Direct Driver interaction

Page Object Pattern

```
class GoogleHomePage extends Page {  
  
    static url = "http://google.com/?complete=0"  
  
    static at = { title == "Google" }  
  
    static content = {  
        searchField { $("input[name=q]") }  
        searchButton(to: GoogleResultsPage) { $("input[value='Google Search']") }  
    }  
  
    void search(String searchTerm) {  
        searchField.value searchTerm  
        searchButton.click()  
    }  
}  
  
class GoogleResultsPage extends Page { ... }
```

```
Browser.drive {  
    to GoogleHomePage  
    search "Chuck Norris"  
  
    at GoogleResultsPage  
    resultLink(0).text().contains("Chuck")  
}
```

Content

```
class GoogleHomePage extends Page {  
    static url = "http://google.com/?complete=0"  
    static at = { title == "Google" }  
  
    static content = {  
        searchField { $("input[name=q]") }  
        searchButton(to: GoogleResultsPage) {  
            $("input[value='Google Search']")  
        }  
    }  
  
    void search(String searchTerm) {  
        searchField.value searchTerm  
        searchButton.click()  
    }  
}
```

Accessible via

```
page.searchField
```

Modules

Think Templates

Reusable modules that exist across multiple page hierarchies.
Header panel

```
class ExampleModule extends Module {  
  static content = {  
    button { $("input", type: "submit") }  
  }  
}
```

```
class ExamplePage extends Page {  
  static content = {  
    theModule { module ExampleModule }  
  }  
}
```

Reporters

ScreenshotAndPageSourceReporter

```
Browser.drive {  
  reportGroup "google"  
  go "http://google.com"  
  report "home page"  
  
  reportGroup "wikipedia"  
  go "http://wikipedia.org"  
  report "home page"  
}
```

- Reports dir
- Listeners
- cleanReportGroupDir()

Grails

```
/target/test-reports/geb/
```

```
${grails.project.test.reports.dir}/geb
```

Example

Remote WebDriver

- Install and run the Remote WebDriver client/server
- Opens a port
- listens for commands

<http://www.objectpartners.com/2012/04/24/start-building-out-automated-groovy-mobile-web-application-testing-on-your-iphone-or-ipad-with-geb-and-spock/>

Sauce Labs

<https://saucelabs.com/>

Browser Testing,
Mobile web-app testing.

- Video & screenshot support
- Desktop & Mobile support
- Behind the firewall tunnelling

<https://saucelabs.com/platforms>

Roll Your Own?

Good luck

Advanced Geb talk

Marcin Erdmann
@marcinerdmann

<https://skillsmatter.com/skillscasts/4764-advanced-geb>

Parallel Execution

Tomas Lin
@TomasLin

<http://fbflex.wordpress.com/2011/12/01/a-script-to-run-grails-functional-tests-in-parallel/>

Jenkins

Partitioning

XVFB = X Virtual Frame Buffer

Remote Control

Grails plugin:

```
compile ":remote-control:1.5"
```

<http://grails.org/plugin/remote-control>

Sikuli

<http://www.sikuli.org/>

<http://fbflex.wordpress.com/2012/10/27/geb-and-sikuli/>

Others?

Questions?

Fin

Thank you