Testing with Selenium

Take Control of the browser

Testing with Selenium

Usual manual testing of a webapp:

• Use browser to access whatever.php
• See if the right results show

With the help of Selenium WebDriver, we can automate this process, for PHP or other web apps.

• We write PHP (or Java/Ruby/Python) to specify user actions on web pages
• We write more PHP... to check on the results.

Selenium WebDriver (v 2.0) in its present form has been available since 2011, later (2013?) for PHP.

• How do we say what on the web page we want to act on?
• Use CSS selectors! (in effect, or explicitly)

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Example: ch02_future_value
Its form has

\n<input type="text" name="investment" value=""/>

We can locate and act on this by

\n$input = $driver->findElement(WebDriverBy::name("investment"));
\n$input->sendKeys("1000");

And similarly the other two input fields, for 5 % and 2 years, then:

\n$input->sendKeys("5");
\n$input->sendKeys("2");

// submit the form
\n$input->submit();

Selenium starts up a browser (Firefox is best for this)
Fills in the form, clicks the submit button
Then captures the response.

Our next lines of PHP access the response.
A crude way is ask for the whole body element:

\n$body = $driver->findElement(WebDriverBy::tagName("body"));
\n$body_str = $body->getText();
\n$spot = strpos($body_str, '1,102');

The last line just searches for the string '1,102' in the body of the response, and returns false if it isn’t there, and the integer position in the string if it is there. Thus we know if the page is working right or not.

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On your own dev system: Need java, Firefox

Run the selenium server in one window:

java -jar selenium-server-standalone-2.47.1.jar

In another window, run command-line php:

php ch02test.php

See Firefox window pop up with the form, see the form filled in, submitted, response back.

In test window, see report:

phpunit ch02test.php

Found 1,102 on result page.

Selenium ch02test.php

// start Firefox with 5 second timeout

$host = 'http://localhost:4444/wd/hub';  // this is the default
$capabilities = DesiredCapabilities::firefox();
$driver = RemoteWebDriver::create($host, $capabilities, 5000);

// navigate to 'http://topcat...'

$driver->get('http://topcat.cs.umb.edu/book_apps/ch02_future_value/');

// find the form elements and fill them in

$input = $driver->findElement(WebDriverBy::name('investment'));
\n$input->sendKeys("1000");
$driver->findElement(WebDriverBy::name('interest_rate'));
\n$input->sendKeys("5");
$driver->findElement(WebDriverBy::name('years'));
\n$input->sendKeys("2");

// submit the form
\n$input->submit();
// check out the response:
$body = $driver->findElement(WebDriverBy::tagName("body"));
$body_str = $body->getText();
$spot = strpos($body_str, '1,102');
if ($spot === false) {
    echo 'Nothing found';
} else {
    echo 'Found 1,102 on result page';
}

echo 'closing down Firefox...';
// close Firefox
$driver->quit();
echo '...Done';