

PhantomJS

NodeJS + VegasJS Meetup
July 9, 2013

PhantomJS + NodeJS Saved My Bacon

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Problem

- 500,000 screenshots of web pages
 - 500 sites, 1000 pages/site
 - Thumbnails for UI
 - Historical archive of web page
- 3 weeks, 4-8 EC2 instances, \$350/run
- 2 calendar weeks before end of month

Solution

- Spent 2 days rewriting screenshot module
- Ran processing in 4 days



What is it?

- Headless Web browser with JavaScript API
- Built on WebKit
- Runs on Mac, Windows, and Linux
- Open source, constant updates, stable
 - Source code on GitHub



Full web stack No browser required

PhantomJS is a headless WebKit scriptable with a JavaScript API. It has **fast** and **native** support for various web standards: DOM handling, CSS selector, JSON, Canvas, and SVG.

[Download v1.9](#)[Get started](#)

Simple Javascript example

```
console.log('Loading a web page');  
var page = require('webpage').create();  
var url = 'http://www.phantomjs.org/';  
page.open(url, function (status) {  
    //Page is loaded!  
    phantom.exit();  
});
```

Community:

[Read the release notes](#)[Join the mailing list](#)[Report bugs](#)

PhantomJS is an optimal solution for

HEADLESS WEBSITE TESTING

Run functional tests with frameworks such as Jasmine, QUnit, Mocha, Capybara, WebDriver, and many others.

SCREEN CAPTURE

Programmatically capture web contents, including SVG and Canvas. Create web site screenshots with thumbnail

PAGE AUTOMATION

Access and manipulate webpages with the standard DOM API, or with usual libraries like jQuery. [Learn more](#)

NETWORK MONITORING

Monitor page loading and export as standard HAR files. Automate performance analysis using YSlow and Jenkins. [Learn more](#)

Why?

- Testing
- Web Screenshot
- Render SVG to PNG
 - Fallback for D3.js Charts
- DOM parsing and manipulation
- Network Monitoring

How?

- JavaScript API
- Specify JS file on the command-line
- API uses familiar Modules pattern
- REPL if no parameters

Simple Example

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Advanced API

- PhantomJS can also act as a webserver
- Screenshot As A Service
 - <https://github.com/fzaninotto/screenshot-as-a-service>
 - <https://github.com/visionmedia/screenshot-app>
- Callback URL on completion

Screenshot Service

```
GET /?url=www.google.com
```

```
# Return a 1024x600 PNG screenshot of the www.google.com homepage
```

```
GET /?url=www.google.com&width=800&height=600
```

```
# Return a 800x600 PNG screenshot of the www.google.com homepage
```

```
GET /?url=www.google.com&callback=http://www.mysevice.com/screenshot/google
```

```
# Return an empty response immediately (HTTP 200 OK), then send a POST request to the callback URL when the screenshot is ready with the PNG image in the body.
```

Parsing

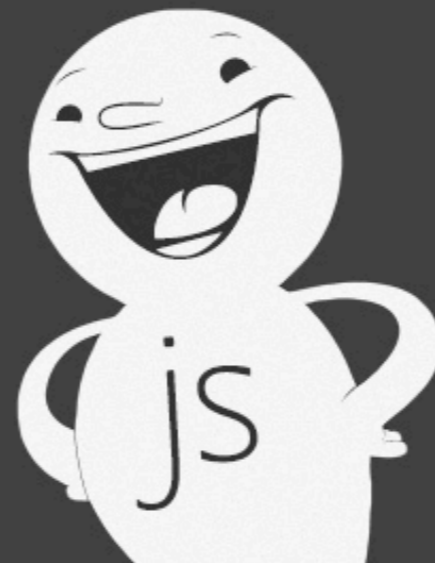
- Node.JS
 - jsdom + htmlparser
- PhantomJS
 - jQuery
 - CasperJS

CasperJS

 is a navigation scripting & testing utility for [PhantomJS](#), written in Javascript

CasperJS is an open source **navigation scripting & testing utility** written in Javascript and based on [PhantomJS](#) — the scriptable headless [WebKit](#) engine. It eases the process of **defining a full navigation scenario** and provides useful **high-level functions, methods & syntactic sugar** for doing common tasks such as:

- defining & ordering browsing [navigation steps](#)
- filling & submitting [forms](#)
- [clicking](#) & following links
- capturing [screenshots](#) of a page (or part of it)
- [testing](#) remote DOM
- [logging](#) events
- [downloading](#) resources, including binary ones
- writing [functional test suites](#), saving results as JUnit XML
- [scraping](#) Web contents



Download

CasperJS latest released version is **1.0.2**, see the [CHANGELOG](#).

Download as .zip archive

Download as .tar.gz archive

Or download CasperJS at [jspkg.com](#)

Donate

(ghosts have bills, you know)

In case you haven't seen CasperJS yet, go and take a look, it's an extremely useful companion to PhantomJS.

[Ariya Hidayat](#), creator of PhantomJS

Get started

Install [CasperJS](#) and [get started](#). Browse the [sample examples](#)

```
casperjs — bash — 70x8
niko@NikoBook:casperjs (0.6*$) $ bin/casperjs samples/googletesting.js
PASS google homepage title is the one expected
```

CasperJS Example

```
var system = require('system'),
    casper = require('casper').create(),
    format = require('utils').format,
    source = casper.cli.get('source') || 'auto',
    target = casper.cli.get('target'),
    text    = casper.cli.get(0),
    result;

if (!target) {
    casper.warn('The --target option is mandatory.').exit(1);
}

casper.start(format('http://translate.google.com/#%s/%s/%s', source,
target, text), function() {
    this.fill('form#gt-form', {text: text});
}).waitForSelector('span.hps', function() {
    this.echo(this.fetchText("#result_box"));
});

casper.run();
```