



C o m m u n i t y E x p e r i e n c e D i s t i l l e d

Using Node.js for UI Testing

Learn how to easily automate testing of your web apps using Node.js, Zombie.js and Mocha

Pedro Teixeira

[PACKT] open source*
PUBLISHING community experience distilled

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First published: March 2013

Production Reference: 1150313

Published by Packt Publishing Ltd.
Livery Place
35 Livery Street
Birmingham B3 2PB, UK..

ISBN 978-1-78216-052-6

www.packtpub.com

Cover Image by Suresh Mogre (suresh.mogre.99@gmail.com)

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He is a founding partner of The Node Firm and a Senior Programmer at Nodejitsu Inc., the leading Node.js platform as a service (PaaS) provider. He is also the author of the popular Node Tuts screencasts and two books about Node.js, namely, *Hands-on Node.js* (self-published) and *Professional Node.js* (Wrox Publication).

When he was ten years old, his father taught him how to program a ZX Spectrum, and since then he has never wanted to stop. He taught himself how to program his father's Apple IIc and then entered the PC era. During college he was introduced to the world of UNIX and open source, and became seriously addicted to it. In his professional life, he has developed systems and products built with Visual Basic, C, C++, Java, PHP, Ruby, and JavaScript for big telecom companies, banks, hotel chains, and others.

He has been a Node.js enthusiast since the very beginning, having authored many applications and also many well-known modules such as Fugue, Alfred.js, Carrier, Nock, and others.

I would like to thank my amazing wife Susana for her support and resilience, you have always been a corner stone and been there for me.

I'd also like to thank the amazing JavaScript and Node.js community for being so enthusiastic and innovative, always taking everyone along on crazy rides, being at the fulcrum of expanding the reach and capabilities of programmers.

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David Mark Clements is a Web entrepreneur residing in Northern Ireland. From a very early age he was fascinated with programming and computers. He first learned BASIC on one of the many Ataris he had accumulated by the age of nine. He learned JavaScript at the age of 12, moving into Linux administration and PHP as a teenager.

Now (as a twenty something), he enjoys working with CSS and HTML, but most of all he enjoys JavaScript – both in the browser and using Node. He wrote *Node Cookbook* (Packt Publishing), a selection of recipes to help coders master the art of asynchronous server-side JavaScript using Node.

Professionally, David is a freelancer who builds responsive websites and web apps for both enterprise and non-governmental organizations, and offers JavaScript/Node training.

You can follow David on Twitter at @davidmarkclem.

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Preface

Automating tests for user interfaces has always been the holy grail of programming. Now, using *Zombie.js* and *Mocha* you can quickly create and run your tests, making it simple to test even the smallest changes. Increase your confidence in the code and minimize the number of times you have to use a real browser while you develop.

Using Node.js for UI Testing is a quick yet thorough guide on how to automatically test your web app, keeping it rock-solid and bug-free. You will learn how to simulate complex user behavior and verify that your application behaves correctly.

You will create a web app in *Node.js* that uses complex user interactions and *AJAX*; by the end of this book you will be able to fully test it from the command line. Then you will start creating the user interface tests for this application using *Mocha* as a framework and *Zombie.js* as a headless browser.

You will also create a complete test suite, module by module, testing simple and complex user interactions.

What this book covers

Chapter 1, Getting started with Zombie.js, helps you to understand how *Zombie.js* works and what types of applications can be tested with it.

Chapter 2, Creating a Simple Web App, explains how to create a simple web app using *Node.js*, *CouchDB*, and *Flatiron.js*.

Chapter 3, Installing Zombie.js and Mocha, teaches you about creating the base structure of a test environment for a web application using *Zombie.js* and *Mocha*.

Chapter 4, Understanding Mocha, helps you to understand how you can use *Mocha* to create and run asynchronous tests.

Chapter 5, Manipulating the Zombie Browser, explains how Zombie.js is used to create a simulated browser that can load an HTML document and perform actions on it.

Chapter 6, Testing Interactions, explains how to trigger events in a document and how to test the results of document manipulations.

Chapter 7, Debugging, teaches you how to inspect the internal state of your application by using the Zombie browser object and some other techniques.

Chapter 8, Testing AJAX, is not present in the book but is available as a free download at the following link:

http://www.packtpub.com/sites/default/files/downloads/0526_8_testingajax.pdf

What you need for this book

To use this book you will need a PC running a modern mainstream operating system such as Windows, Mac, or Linux.

Who this book is for

This book is for programmers who use and somewhat understand JavaScript, especially having some experience with event-driven programming. For instance, if you have used JavaScript in the context of a web page for setting up event callbacks and making AJAX calls, you will experience a smoother learning curve. Alternatively, some experience in using Node.js will also ease the learning curve, but is not an absolute requirement.

Conventions

In this book, you will find a number of styles of text that distinguish between different kinds of information. Here are some examples of these styles, and an explanation of their meaning.

Code words in text, database table names, folder names, filenames, file extensions, pathnames, dummy URLs, user input, and Twitter handles are shown as follows:
"To access a CouchDB database from Node you will use a library called nano."

A block of code is set as follows:

```
browser.visit('http://localhost:8080/form', function() {  
  browser  
    .fill('Name', 'Pedro Teixeira')  
    .select('Born', '1975')  
    .check('Agree with terms and conditions')  
    .pressButton('Submit', function() {  
      assert.equal(browser.location.pathname, '/success');  
      assert.equal(browser.text('#message'),  
        'Thank you for submitting this form!');  
    });  
});
```

When we wish to draw your attention to a particular part of a code block, the relevant lines or items are set in bold:

```
"scripts": {  
  "test": "mocha test/users.js",  
  "start": "node app.js"  
}, ...
```

Any command-line input or output is written as follows:

```
$ npm install  
...  
mocha@1.4.2 node_modules/mocha  
...  
  
zombie@1.4.1 node_modules/zombie  
...
```

New terms and **important words** are shown in bold. Words that you see on the screen, in menus or dialog boxes for example, appear in the text like this: "clicking the **Next** button moves you to the next screen".



Warnings or important notes appear in a box like this.



Tips and tricks appear like this.

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Errata

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