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Web Development Recipes Second Edition

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Edition

Web Development Recipes

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Preface

It's no longer enough to know how to wrangle HTML, CSS, and a bit of JavaScript. Today's web developer needs to know how to write testable code, build interactive interfaces, integrate with other services, and sometimes even do some server configuration, or at least a little bit of back-end work. This book is a collection of more than forty practical recipes that range from clever user-interface tricks that will make your clients happy to server-side configurations that will make life easier for you and your users. You'll find a mix of tried-and-true techniques and cutting-edge solutions, all aimed at helping you truly discover the best tools for the job.

Who's This Book For?

If you make things on the web, this book is for you. If you're a web designer or front-end developer who's looking to expand into other areas of web development, you'll get a chance to play with some new libraries and workflows that will help you be more productive, and you'll get exposed to a little bit of that server-side stuff along the way.

If you've been spending a lot of time on the back end and you need to get up to speed on some front-end techniques, you'll find some good recipes here as well, especially in the chapters on workflow and testing.

One last thing—a lot of these recipes assume you've had a little experience writing client-side code with JavaScript and jQuery. If you don't think you have that experience, read through the recipes anyway and pick apart the provided source code. Consider the more advanced recipes as a challenge.

What's in This Book?

We've included a bunch of great topics to get you started on the path to more advanced web development. Each recipe poses a general problem and then lays out a specific solution to a scenario you're likely to encounter, whether it's how to test your site across multiple web browsers, how to quickly build

and automatically deploy a simple static site, how to create a simple contact form that emails results, or how to configure Apache to redirect URLs and serve pages securely. We'll take you through both the how and the why so you can feel comfortable using these solutions in your projects. Since this is a book of recipes, we can't go into a lot of detail about more complex system architecture, but you'll find some suggestions on where to go next in each recipe's Further Exploration section.

We've organized the recipes into chapters by topic, but you should feel free to jump around to the topics that interest you. Each chapter contains a mix of beginner and intermediate recipes, with the more complex recipes at the end of each chapter.

In [Chapter 1, *Eye-Candy Recipes*, on page ?](#), we cover some ways you can use CSS and other techniques to spice up the appearance of your pages.

In [Chapter 2, *User Interface Recipes*, on page ?](#), you'll use a variety of techniques to craft better user interfaces—including use of JavaScript frameworks like Knockout and Angular—and you'll look at how to make better templates for sending HTML emails.

In [Chapter 3, *Data Recipes*, on page ?](#), you'll look at ways you can work with user data. You'll construct a simple contact form and do some work with charts, and you'll take a peek at how to build a database-driven application using CouchDB.

In [Chapter 4, *Mobile Recipes*, on page ?](#), you'll take user interfaces a step further and look at ways you can work with the various mobile computing platforms. You'll spend some time with jQuery Mobile, look at how to handle multitouch events, and dig a little deeper into determining how and when to serve a mobile version of a page to your visitors.

In [Chapter 5, *Workflow Recipes*, on page ?](#), you'll discover ways you can improve your development process to produce quality code while being more productive in the process. We'll investigate how Sass can make your life easier when you're managing large style sheets. And we'll explore CoffeeScript, a language that produces JavaScript that works everywhere but lets you take advantage of more modern language capabilities.

In [Chapter 6, *Testing Recipes*, on page ?](#), you'll create more bulletproof sites by using automated tests, and we'll show you how to start testing the JavaScript code you write.

Finally, we'll turn our attention to moving into production in [Chapter 7, *Hosting and Deployment Recipes*, on page ?](#). We'll walk you through building

a virtual machine so you have a testing environment to try things in before you set up your production environment, and we'll cover how to set up secure sites, do redirects properly, and protect your content. We'll also show you how to automate the deployment of websites so you won't accidentally forget to upload a file.

What You Need

We'll be introducing you to many new technologies in this book. Some of them are fairly new and somewhat subject to change, but we think they're compelling and stable enough to talk about at an introductory level. That said, web development moves quickly. We've taken steps to ensure that you can still follow along, by providing copies of the libraries we use in these recipes with the book's source code where appropriate.

We've tried to keep the prerequisites to a minimum, but you'll want to familiarize yourself with a few things before you dig in.

HTML5 and jQuery

We use HTML5 markup in our recipes—you won't find any self-closing tags in our markup, and you'll see some new tags like `<header>` and `<section>` in some of the examples. If you're not familiar with HTML5, you might want to read [HTML5 and CSS3: Level Up With Today's Web Technologies \[Hog13\]](#).

We'll also use jQuery when it's appropriate. Several of the libraries we introduce in these recipes rely on it, and it often results in code that's easier to understand. In most cases, our code examples will fetch jQuery from Google's content delivery network. In a couple of cases libraries will require specific versions of jQuery, and we'll be sure to point those out.

JavaScript Coding Conventions

To ensure that JavaScript doesn't block the page from loading quickly, we'll place all of our JavaScript code in the body of the page, right above the closing `<body>` tag. This also eliminates the need for us to use any checks to see if the document is ready.

As a convention, we'll prepend any variable names that reference jQuery objects with a dollar sign so we know when we're referencing jQuery objects vs. regular variables. This makes these variables easier to identify when we're reading the code later:

```
// jQuery object           // not jQuery
var $images = $("#images");  var options = {fx: fade};
```

Finally, we'll enclose all of our JavaScript inside an Immediately-Invoked Function Expression (IIFE) to avoid polluting the global state:

```
(function($){  
    // Our code goes here.  
    // All variables within are local to this function expression.  
})(jQuery);
```

This also can have an impact on performance, as JavaScript can reference the variables directly in the IIFE instead of having to look in the global scope.

The Shell

You'll work with various command-line programs in these recipes whenever possible. Working on the command line is often a huge productivity boost, because a single command can replace multiple mouse clicks, and you can write your own scripts to automate these command-line tools. The *shell* is the program that interprets these commands. If you're on a Windows machine, you'll use the Command Prompt. If you're on OS X or Linux, that's the Terminal.

Shell commands will look something like this:

```
$ mkdir javascripts
```

The \$ represents the prompt in the shell, so you're not meant to type it in. The commands and processes you'll use are platform-independent, so whether you're on Windows, OS X, or Linux, you'll have no trouble following along.

Node.js

Several recipes in this book require that you have Node.js installed. We'll be using some tools that require Node.js to run, such as Grunt, Enfield, CoffeeScript, and Sass. Visit the Node.js website¹ and install the version for your operating system.

QEDServer

Several of the recipes in this book make use of an existing product-management web application. You can work with this application by installing QEDServer,² a stand-alone web application and database that requires minimal setup. QEDServer works on Windows, OS X, and Linux. All you need is a Java Runtime Environment. Whenever we refer to our development server, we're talking about this. It gives us a stable web-application back end for our

1. <http://nodejs.org/>

2. A version for this book is available at <http://webdevelopmentrecipes.com/>.

demonstrations, and it gives you a hassle-free way to work with Ajax requests on your local machine.

The examples in this book will run against the version of QEDServer that we've bundled with the book's code examples, which you should download from the book's website.³

To use QEDServer, you start the server with `server.bat` on Windows or `./server.sh` on OS X and Linux. This creates a public folder that you can use for your workspace. If you create a file called `index.html` in that public folder, you can view it in your web browser by visiting <http://localhost:8080/index.html>.

A Virtual Machine

Several chapters in this book use a Linux-based web server with Apache and PHP. You'll learn how to set up your own copy of this server in [Recipe 39, *Setting Up a Virtual Machine on page ?*](#), but we've provided a virtual machine that's already configured, which you can get from <http://www.webdevelopmentrecipies.com/>. You'll need the free VirtualBox⁴ application to run the virtual machine.

Online Resources

The book's website⁵ has links to an interactive discussion forum as well as a place to submit errata for the book. You'll also find the source code for all the projects we build. Readers of the ebook can interact with the box above each code excerpt to view that snippet directly.

With all that out of the way, we're ready to jump in. We hope you enjoy this book and that it gives you some ideas for your next web project!

Brian, Chris, CJ, and Mike

3. <http://webdevelopmentrecipies.com>
4. <http://www.virtualbox.org/>
5. <http://pragprog.com/titles/wbdev2>