

Extracted from:

Automate with Grunt

The Build Tool for JavaScript

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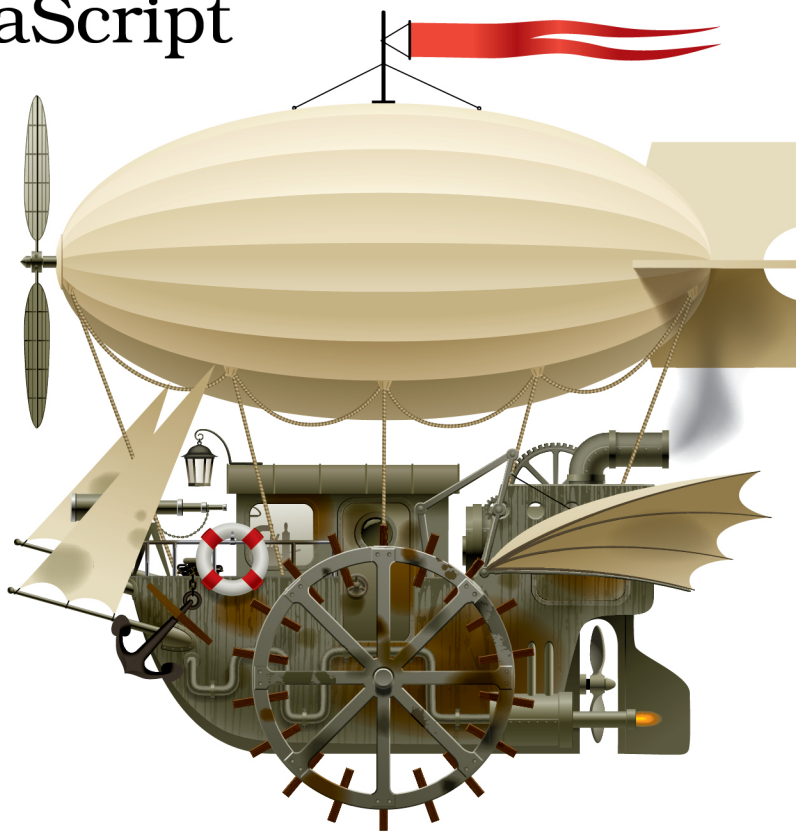
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Automate with Grunt

The Build Tool
for JavaScript



Brian P. Hogan

Edited by Susannah Davidson Pfalzer

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The team that produced this book includes:

Susannah Davidson Pfalzer (editor)

Candace Cunningham (copyeditor)

David J Kelly (typesetter)

Janet Furlow (producer)

Ellie Callahan (support)

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Preface

Web development has changed. The days of opening a few text files in your editor of choice and then uploading them to the live site are long gone. Today's web applications demand complex styling and functionality that only advanced CSS and JavaScript can provide. These assets get quite large and unwieldy, and the process requires a new workflow.

The JavaScript community has embraced Grunt, a powerful automation tool and task runner written in JavaScript, to handle these workflows. With Grunt, you can watch files for changes, concatenate CSS files and JavaScript files together, obfuscate or minify client-side code, run tests, and check your code for syntax errors, all automatically. Unfortunately, a lot of documentation on Grunt centers on copying and pasting various bits of code rather than focusing on how Grunt itself works.

This book will help you understand how Grunt works and show you how you can make it part of your development process. When you're done you'll be able to use Grunt on your own projects and build your own tasks and plugins.

What's in This Book

This guide is meant to be a quick overview of Grunt, using hands-on examples to illustrate its features.

We'll start out by looking at the very basics of Grunt, defining some simple tasks as we build our first Gruntfile. We'll create basic tasks, create tasks that take in parameters, chain tasks together, and document tasks. Then we'll look at Grunt's built-in tools for working with files and folders on the file system.

After that we'll look at multitasks, a feature of Grunt that lets us define a single task that can have multiple output targets. This is useful for file conversion and other tasks where you might need to create separate distributions from a single source.

Next we'll use several Grunt plug-ins together as we configure a workflow to develop a modern single-page web application with CoffeeScript and the AngularJS framework. We'll cover conversion, minification, and file watching so you can see how easy Grunt makes automating important repetitive tasks.

Then we'll look at what it takes to create our very own plug-in for Grunt. This will give us a chance to explore how Grunt can leverage Node.js and external programs, as well as how to break Grunt tasks into reusable modules.

And finally, we'll use Grunt to create project scaffolds. We'll play with existing plug-ins and then we'll create our very own project template that we can use when we start our own web projects.

In addition, each chapter gives you suggestions for further exploration, offering you the opportunity to dig deeper into Grunt.

Who Should Read This Book

If you're a web developer working with CSS and JavaScript and you've never used Grunt, you need this book. Grunt's features can make your workflow so much easier to manage. If your only experience with Grunt is copying and pasting some lines of configuration, you'll find value here, as well. Grunt has become a standard for JavaScript projects on both the client and the server. Knowing how it works will be incredibly valuable.

This book assumes that you know some basic programming and that you're not afraid to write JavaScript code. The Grunt tasks we use will be written in JavaScript using Node.js.

What You Need

You'll need a computer running Windows 7 or 8 or a modern version of Linux or OS X. You'll need the ability to install software on your computer, as well as an active Internet connection.

You'll also need a text editor or your IDE of choice. You can use Sublime Text, which is a commercial editor with a trial period, or any other text editor that you'd write code in.¹

We'll use Node.js, so you'll need to visit the Node.js website and get the latest version installed.² You'll find installers for all platforms there. Download the one for your operating system and install it using the default options.

1. <http://www.sublimetext.com/>

2. <http://nodejs.org>

Finally, Grunt is a command-line utility, so you'll use the Command Prompt on Windows or the Terminal on OS X or Linux. This book will guide you through that process, so you'll be pretty comfortable by the end. If you're used to graphical programs, it might seem a bit shocking to you that you have to go "old school," but a lot of modern developers use command-line tools because of the flexibility they offer. You'll run Grunt on the command line, but you'll still use your normal workflow and tools to write your apps.

Conventions

As you work through the book, you'll see some conventions.

When you're asked to type a command in the Command Prompt or Terminal, which I'll just refer to as the Terminal, it'll look like this:

```
$ grunt
```

The dollar sign (\$) represents the prompt in your Terminal. You never type that part of the command. But when you see it, that means you will need to type the command in your Terminal.

Sometimes you'll see snippets of code you'll type out. Those will look like this:

```
basics/kicking_tires/Gruntfile.js
module.exports = function(grunt){
  // Your tasks go here
}
```

The filename above the code indicates the file we're working with. You can use this to locate the full file in the book's source code download, too. And if you're reading the electronic copy of the book, you can click or tap on the name of the file to view the file online.

Sometimes you'll see output from the screen, which will look like this:

```
Available tasks
  default Custom task.
  greet   Custom task.
addNumbers Custom task.
  all     Alias for "default", "greet:Brian", "addNumbers:2:3" tasks.
  praise  Have Grunt say nice things about you.
```

This is a hands-on book, so there will be many places where we'll reference files or commands. The book's formatting should make it clear which file or command you're expected to work with.

Where to Go for Help

The book's web page contains a link to the book's forum, where you can ask questions and provide feedback.³ When reporting any problems, please be sure to report the version of the book you're reading.

And now, with all that out of the way, let's dig into how Grunt works.

3. <http://pragprog.com/book/bhgrunt/>