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Twitter Bootstrap Web Development How-To

A hands-on introduction to building websites with Twitter Bootstrap's powerful front-end development framework

David Cochran

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David Cochran is Associate Professor of Communication at Oklahoma Wesleyan University. He and his students have a fondness for envisioning and producing exciting projects, with well-built standards-compliant websites playing a central role in them. David frequently publishes online tutorials to share insights gained in the course of those projects. In recent months, Twitter Bootstrap has been a key topic. You'll find a number of these tutorials at Webdesign.tutsplus.com and at his blog, aLittleCode.com.

I would like to thank my wife, Julie, and our kids. Thanks for riding through the busy times with grace. And thank you for the joy you bring. I'm grateful beyond words.

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About the Reviewers

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I would like to thank my family and friends who supported me in completing my reviews on time with good quality.

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Preface

One of the joys of front-end web development is its culture of spontaneous generosity. Run into trouble achieving your desired design? Is browser X or Y causing you problems? Chances are someone has identified the problem, worked out a solution, and posted it with a demo and code samples. Google it up, tweet a thanks, post a comment, maybe even donate a buck, and you're fast friends on the road to some serious web design conquests.

Over the years this basic disposition has scaled itself up. From icon packs and gradient generators to grid systems and GitHub projects, our profession's culture of generosity has grown in sophistication. Need a great grid, thoughtful typography, expertly crafted buttons? Perhaps some user-friendly form elements? Can do. Here, there, and yonder, you'll find a plethora of tips, tools, and packs to get it done.

It's a beauty to behold.

Generosity meet cohesion!

Yet perhaps you've noticed an unintended consequence of this habitual generosity. The proliferation of tips, tools, recommendations, and solutions emerge from all across the web. When solutions come from every which way, things can become a bit chaotic. A certain amount of cohesion and consistency are important to design, including interface design. And yet cohesion and consistency often seem to be among the scarcest of resources on the Web. Not that this problem is a new one. The industry of mobile application design handles it by providing developers with Software Development Kits (SDKs) that include carefully honed, cohesive approaches to addressing the standard needs of interface design. The industry of web design, by contrast, has typically not enjoyed the widespread use of similar front-end development kits.

Not, that is, until Twitter Bootstrap.

When Twitter developers Mark Otto and Jacob Thornton first released Twitter Bootstrap in August 2011, they made a splash. Understandably so, as their framework supplied carefully crafted yet easily modified styles and scripts for the essential elements of a complete web interface. In January of 2012, Twitter Bootstrap 2.0 brought a number of enhancements, most significantly a responsive layout which adapted to desktops, tablets, and handhelds. Thus it has happened that, as of this writing, Twitter Bootstrap has quickly become the most watched of all GitHub projects, with more than 33,000 Github users watching it—more than twice the closest runner up. To emerge so quickly from a field of contenders which includes the likes of the HTML5 Boilerplate and the jQuery JavaScript library, this is no small feat. Given the rate of its growth and the size of its community, we may be forgiven for suspecting that we have something serious on our hands.

A serious community

Like the HTML5 Boilerplate and the jQuery library, Twitter Bootstrap represents an informed and energetic community exerting its best efforts toward a common and shareable set of best practices. Without demanding submission or commanding uniformity, the community exerts authority for a simple reason: it produces a cohesive collection of tested, tried, and proven lines of code. The code base may be adopted and embraced, customized and modified, or dissected and examined. In all cases it offers serious solutions for real problems—solutions that speed developers on their way to serving up consistent, reliable, and user-friendly web experiences.

The proof is in the pudding. Visit a few of the many sites collected at BuiltwithBootstrap.com [<http://builtwithbootstrap.com>](http://builtwithbootstrap.com) and you'll find a pleasing variety of designs sharing a few key features in common: strong typographical conventions, a well formed grid, and a user-friendly interface, amply endowed with cross-browser compatibility and multi-device friendliness to spare. Many a developer has achieved these results without the aid of Twitter Bootstrap, of course, but there is little doubt that Bootstrap helps the cause and contributes to a better Web. Adopt it wholesale or dissect and inspect it, we stand to benefit from the transaction.

What this book covers

Downloading and setting up (Must know), walks you through the basics—getting the CSS, images, and JavaScript, and creating a page template.

Headings, links, and buttons (*Must know*), introduces you to Bootstrap's ready-made styles for clear typographic hierarchy and turning hyperlinks into visually appealing buttons.

Conquering the layout (*Must know*), experiments with Bootstrap's fantastic twelve-column grid system, just to get familiar with it.

Creating a standard sub-page (*Must know*), applies the Bootstrap grid system to lay out a standard sub-page with a wide main column and a narrower sidebar.

Creating a portfolio page (*Must know*), assists you in laying out a full-page grid of linked images with captions, using Bootstrap's styles for thumbnails.

Creating a products page (*Must know*), walks you through the steps involved in creating a products page. Bootstrap comes with effective styles for laying out a good, basic, visually appealing table. We'll use it to start a products page.

Customizing the navbar (*Must know*), assists you in adding links to these pages in Bootstrap's main navigation bar.

Making it responsive (*Should know*), connects jQuery and Bootstrap's JavaScript plugins to enable the navbar to adapt responsively to small devices and viewports.

Adding drop-down lists (*Should know*), shows how to add drop-down lists to your navbar. With the JavaScript in place, it's quite simple.

Using tabs for switching content (Should know), illustrates the use of tabs for switching content. Now that we're getting used to leveraging all of Bootstrap—markup, CSS, and JavaScript—we're ready to create dynamic tabs for switching between panes of content.

Creating a homepage carousel (*Should know*), adds a final touch to your site. To finish our site, we'll add a beautiful image slideshow, using Bootstrap's excellent, fully responsive carousel.

Optimizing and customizing (Should know), will show you how to optimize your site for better performance and how to add customizations. Out-of-the-box Bootstrap is great. But you'll want to customize it. We'll bring in some custom colors and font faces. And we'll optimize our files in the process.

Uploading, testing, and launching (Must know), walks you through a basic process of uploading our site to the web. Then you'll leverage a couple of great online tools to test our site for both desktop and mobile devices.

Appendix: Bootstrap resources, contains a list of resources to help you continue growing as a Bootstrap-equipped developer.

What you need for this book

The requirements are pretty simple: a computer, an Internet connection, a text editor, and a desire to learn!

Who this book is for

I've written with the novice to intermediate developer in mind. If you're new to HTML, CSS, and JavaScript—don't worry! I'll help you along. If you've been designing sites for a while, the book is an ideal way to get a quick introduction to Twitter Bootstrap's distinctive markup, CSS, and JavaScript plugins. If you're an advanced developer, interested in customizing Bootstrap and working with LESS to preprocess your CSS, I'm afraid this book is not for you!

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 are shown as follows: "Rename the file `index.html`."

A block of code is set as follows:

```
<div class="hero-unit">
  <h1>Hello, world!</h1>
  <p>This is a template ...</p>
  ...
</div>
```

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

```
<div class="item active">
  
  <div class="carousel-caption">
    <p>Caption content here</p>
  </div>
</div>
```

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: "Click on the large **Download Bootstrap** button".

Note

Warnings or important notes appear in a box like this.

Tip

Tips and tricks appear like this.

Reader feedback

Feedback from our readers is always welcome. Let us know what you think about this book—what you liked or may have disliked. Reader feedback is important for us to develop titles that you really get the most out of.

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Errata

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Chapter 1. Twitter Bootstrap Web Development How-To

Welcome to *Twitter Bootstrap Web Development How-To*. The content of this book is up to date with version 2.1 of Twitter Bootstrap. In what follows, this book will help you to get to know **Twitter Bootstrap** by trying it on for size. I've written with the novice to intermediate developer in mind. If you've been designing sites for a while, then this book will give you a quick introduction to several key features of Twitter Bootstrap's markup, stylesheets, and JavaScript plugins. If you're new to HTML and CSS (and maybe even a little scared of JavaScript)—don't worry! This book will help you along. If, by contrast, you're looking to compile CSS from LESS and integrate the results with Backbone.js—this isn't for you.

Fair enough?

Let's dive in.

Downloading and setting up (Must know)

In a few simple steps, we'll put together a basic starter site equipped with Twitter Bootstrap's framework of stylesheets, icons, and JavaScript plugins.

Getting ready

Twitter Bootstrap is more than a set of code. It is an online community. To get started, you will do well to familiarize yourself with Twitter Bootstrap's home base:

<http://twitter.github.com/bootstrap/>

Here you'll find the following:

- **The documentation:** If this is your first visit, grab a cup of coffee and spend some time perusing the pages, scanning the components, reading the details, and soaking in. (You'll see this is going to be fun.)
- **The download button:** You can get the latest and greatest versions of the Twitter Bootstrap's CSS, JavaScript plugins, and icons, compiled and ready for action, coming to you in a convenient ZIP folder. This is where we'll start.

Tip

Downloading the example code

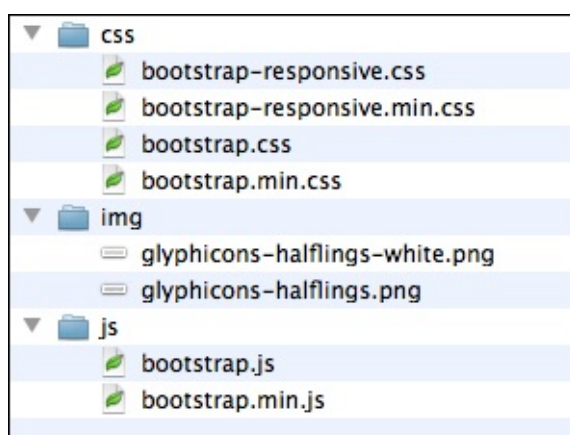
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your account at <http://www.PacktPub.com>. If you purchased this book elsewhere, you can visit <http://www.PacktPub.com/support> and register to have the files e-mailed directly to you.

How to do it...

Whatever your experience level, as promised, I'll walk you through all the necessary steps. Here goes!

1. Go to the Bootstrap homepage: <http://twitter.github.com/bootstrap/>.
2. Click on the large **Download Bootstrap** button.
3. Locate the download file and unzip or extract it. You should get a folder named simply `bootstrap`. Inside this folder you should find the folders and files shown in the following screenshot:



4. From the homepage, click on the main navigation item: **Get started**.
5. Scroll down, or use the secondary navigation, to navigate to the heading: **Examples**. The direct link is:

<http://twitter.github.com/bootstrap/getting-started.html#examples>

6. Right-click and download the leftmost example, labeled **Basic Marketing Site**. You'll see that it is an HTML file, named `hero.html`.
7. Save (or move) it to your main bootstrap folder, right alongside the folders named `css`, `img`, and `js`.
8. Rename the file `index.html` (a standard name for what will become our homepage).

You should now see something similar to the following screenshot:



9. Next, we need to update the links to the stylesheets.

Why? When you downloaded the starter template file, you changed the relationship between the file and its stylesheets. We need to let it know where to find the stylesheets in this new file structure.

10. Open `index.html` (formerly, `hero.html`) in your code editor.

Tip

Need a code editor?

- **Windows users:** You might try **Notepad++** (<http://notepad-plus-plus.org/download/>)
- **Mac users:** Consider **TextWrangler** (<http://www.barebones.com/products/textwrangler/>)

11. Find these lines near the top of the file (lines 11-18 in version 2.0.2):

```
<!-- Le styles -->
<link href="../../assets/css/bootstrap.css" rel="stylesheet">
<style type="text/css">
  body {
    padding-top: 60px;
    padding-bottom: 40px;
  }
</style>
<link href="../../assets/css/bootstrap-responsive.css" rel="stylesheet">
```

12. Update the `href` attributes in both `link` tags to read as follows:

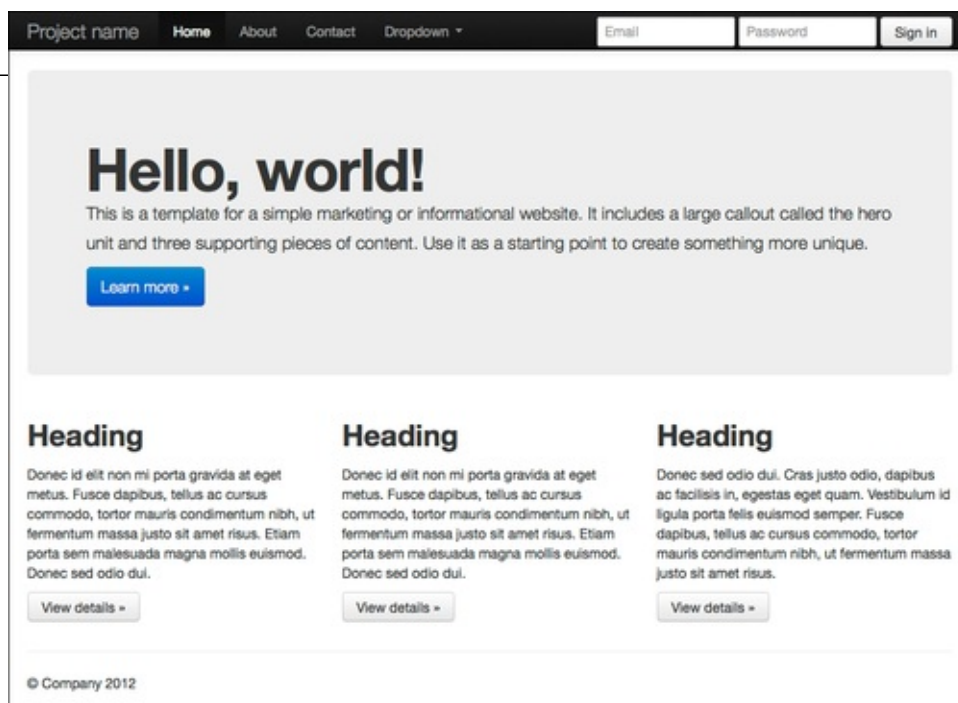
```
href="css/bootstrap-responsive.css"
```

13. Save your changes!

You're set to go!

Open it up in your browser! (Double-click on `index.html`.)

You should see something like this:



Congratulations! Your first Bootstrap site is underway.

Problems? Don't worry. If your page doesn't look like this yet, let me help you spot the problem. Revisit the steps above and double-check a couple of things:

- Are your folders and files in the right relationship? (see step 3 as detailed previously)
- In your `index.html`, did you update the `href` attributes in both stylesheet links? (These should be lines 11 and 18 as of Twitter Bootstrap version 2.1.0.)

There's more...

Of course, this is not the only way you could organize your files. Some developers prefer to place stylesheets, images, and JavaScript files all within a larger folder named `assets` or `library`. The organization method I've presented is recommended by the developers who contribute to the HTML5 Boilerplate. One advantage of this approach is that it reduces the length of the paths to our site assets.

Thus, whereas others might have a path to a background image such as this:

```
url('assets/img/bg.jpg');
```

In the organization scheme I've recommended it will be shorter:

```
url('img/bg.jpg');
```

This is not a big deal for a single line of code. However, when you consider that there will be many links to stylesheets, JavaScript files, and images running throughout your site files, when we reduce each path a few characters, this can add up. And in a world where speed matters, every bit counts. Shorter paths save characters, reduce file size, and help support

faster web browsing.

Headings, links, and buttons (Must know)

If you're familiar with HTML, you'll quickly be able to size up the sample content provided in our [index.html](#) (formerly [hero.html](#)). But there are a few Bootstrap-specific opportunities that I'll raise to your attention.

Getting ready

If you're new to HTML, then let me point you to some assistance. The excellent HTML tutorials and references at <http://htmldog.com> will help you get up to speed quickly. The HTML Beginner Tutorial will equip you with the baseline essentials, though I would encourage you to work through intermediate and advanced versions as well. Additionally, I would strongly encourage you to work through the corresponding CSS tutorials, as you'll gain a much better understanding of the fundamentals behind Twitter Bootstrap. Then come back and continue!



If you're familiar with HTML (or once you've tackled these tutorials), take a moment to note the headings and the class `hero-unit`. We'll do some further customization using our own headings.

With [index.html](#) opened in your editor, scroll down to approximately line 76, where you'll find the `h1` heading, `<h1>Hello, world!</h1>`. Scrolling on down, you'll see a couple of `h2` headings at lines 84, 89, and 94, roughly. (Note that the precise line numbers and some elements may change in future versions of Twitter Bootstrap.)

Observe that headings get considerably larger when nested inside the `div` of class `hero-unit`. Back up around the first `h1` heading, you'll see the following tag structure:

```
<div class="hero-unit">
  <h1>Hello, world!</h1>
  <p>This is a template ...</p>
  ...
</div>
```

The `hero-unit` class calls in Bootstrap CSS rules that scale up font sizes, creating a welcome message that can't be missed. You'll note that things aren't too large outside the `hero-unit` in the headings and paragraphs below.

Now it's time to customize your own content!

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