

THE EXPERT'S VOICE® IN WEB DEVELOPMENT

# WordPress for Web Developers

An Introduction for Web Professionals

*LEARN HOW TO ADMINISTER AND  
SECURE WORDPRESS, AND CREATE  
CUSTOM THEMES AND PLUGINS  
USING PHP*

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*For your convenience Apress has placed some of the front matter material after the index. Please use the Bookmarks and Contents at a Glance links to access them.*



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# Introduction

WordPress became my CMS of choice because it's so easy for end users to learn how to manage their own sites. In this book, you'll learn how to install, configure, and customize WordPress to make it the perfect CMS for your next project. I'll walk you through the complete development of a WordPress site, whether you're importing content from another CMS or writing your own. You'll learn how to create custom themes that give you complete control over your site's appearance. You'll see how to extend WordPress with custom post types when you find that posts and pages aren't enough, and you'll learn to write your own plugins when your needs outstrip the built-in features.

## Who This Book Is For

This book is for the professional web developer who already understands HTML, CSS, and maybe a little PHP, but has never used WordPress before. If you're comfortable building sites without a content management system, or with a CMS other than WordPress, this book will teach you how to begin building comparable sites using WordPress.

## How This Book Is Structured

I've arranged this book into three parts.

**Chapters 1 through 7** provide an introduction to WordPress and a detailed tour of its administration screens. Along the way, you'll also learn about various plugins that might be helpful in specific situations. No particular expertise is needed in these chapters; they are intended to be useful to all site owners and administrators.

**Chapters 8 through 10** cover more advanced administration functions involving server configurations and database operations.

**Chapters 11 through 14** provide an introduction to WordPress theme and plugin development. Here, some knowledge of HTML, CSS, and PHP is required. You'll also see a few MySQL queries, but you won't need to write any of your own to follow the examples. Each chapter's introduction includes a list of the specific technical topics that will be relevant, along with a list of books and online resources you can use to brush up on the subjects, if needed. Chapters 11 through 14 end with a list of articles for further reading on each subject.

## Conventions

Throughout the book, I've kept a consistent style for presenting HTML markup and PHP code. Where a piece of markup, a function, or a WordPress hook is presented in the text, it is presented in fixed-width Courier font, such as this:

```
<?php get_sidebar(); ?>
```

## Downloading the Code

The code for the examples shown in this book is available on the Apress web site, [www.apress.com](http://www.apress.com). A link can be found on the book's information page under the Source Code/Downloads tab. This tab is located underneath the Related Titles section of the page.

## Contacting the Author

Should you have any questions or comments—or even spot a mistake you think I should know about—you can contact me at [stephanieleary.com](http://stephanieleary.com).

## CHAPTER 1



# Getting Started

WordPress has grown enormously in the last few years, going from the most popular blogging software to the most popular web-based software, period. At 2012's Signal Conference, it was estimated that WordPress powered 16% of the entire web (<http://sleary.me/wp1>).<sup>1</sup> A study by the Royal Pingdom blog showed that of the top 100 sites on the web, nearly half of them ran on WordPress (<http://sleary.me/wp2>).<sup>2</sup>

What is this thing, and how did it get so popular?

## Why WordPress?

WordPress is one of many content management systems that allow you to update your site through a simple Web interface instead of editing and uploading HTML files to a server. Most other systems emphasize either blog posts or web pages. WordPress is best known as a blogging system, but in fact it treats posts and pages equally. It is therefore ideal for dense reference sites that also have a news section, or news-oriented sites that have a few informational pages. It is a flexible system that can be used to create sites for businesses, project collaborations, university departments, artist portfolios, and (of course!) personal or group blogs.

A developer familiar with WordPress's application programming interfaces (APIs)—which you will be, too, once you've finished this book!—can even use WordPress as an application development platform. Yuri Victor, describing how the *Washington Post* uses WordPress (<http://sleary.me/wp3>),<sup>3</sup> writes:

*The Washington Post uses WordPress for blogging and to quickly build products and prototypes because while being a lightweight system, WordPress is a good foundation for what we need. . . . The crazy thing [is] we've only been using WordPress for about six months. I don't think The Post has ever launched so many products, so quickly with such success.*

## wordpress.com vs. wordpress.org

WordPress comes in two distinct flavors, usually referred to as `.com` and `.org`.

On [wordpress.com](http://wordpress.com), anyone can sign up for a free, hosted site running on WordPress. The service comes with a few limitations, however: you'll have to choose from one of the approved themes (although there are a lot of them), and you can't install any plugins. On the other hand, you never have to worry about backing up your data or upgrading the software; all of that is handled for you.

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<sup>1</sup><http://socialmediatoday.com/socialmktgfella/475399/102-people-power-16-web>

<sup>2</sup><http://royal.pingdom.com/2012/04/11/wordpress-completely-dominates-top-100-blogs/>

<sup>3</sup><http://yurivictor.com/2013/01/09/why-the-washington-post-uses-wordpress/>

If you need more flexibility than [wordpress.com](http://wordpress.com) offers, you can go to [wordpress.org](http://wordpress.org), download the software for free, and install it on your own server, along with any themes and plugins you desire. You will be responsible for backing up your data, installing upgrades when they become available, and making sure your site is secure (all of which you will learn how to do in later chapters).

Most commercial Web hosts support WordPress, although only three are recommended on [wordpress.org](http://wordpress.org). There are a handful of managed WordPress hosting services that try to combine the benefits of [wordpress.com](http://wordpress.com) (handling backups, upgrades, and security for you) while giving you the flexibility of [wordpress.org](http://wordpress.org) (custom themes and plugins). If the prospect of backing up and restoring a MySQL database makes you tremble, these hosts might be the answer for you. The Vandelay Design blog has a good comparison of the managed WordPress hosting services (<http://sleary.me/wp4>).<sup>4</sup>

This book covers only the self-hosted version of WordPress available from [wordpress.org](http://wordpress.org).

## Everything You Need

WordPress is famous for its five-minute installation. In fact, if you have your database connection details in hand before you begin, it might not even take you that long! WordPress's system requirements (discussed in more detail in Chapter 2) are modest, allowing it to run on most commercial shared hosting plans that include PHP and MySQL.

WordPress comes with everything you need to set up a basic web site, including:

- *Posts and pages.* In the most traditional use of WordPress, a blog (composed of posts) will feature a few “static” (but still database-driven) pages, such as “About.” However, as you’ll see throughout this book, you can use these two primary content types in a number of other ways.
- *Media library.* The post and page editing screens allow you to upload files and insert them into your content: images, audio, video, Office documents, PDFs, and more.
- *Categories and tags.* WordPress includes both hierarchical and free-form taxonomies for posts.
- *User roles and profiles.* WordPress users have five possible roles (Subscriber, Contributor, Author, Editor, and Administrator), with escalating capabilities and a basic workflow for editorial approval. User profiles include a biography, e-mail address, URL, and a Gravatar (a user image stored in a central service).
- *RSS and Atom feeds.* There are RSS and Atom feeds available for just about everything in WordPress. The main feeds include recent posts and comments, but there are also feeds for individual categories, tags, authors, and comment threads.
- *Clean URLs.* WordPress supports search engine-friendly URLs (or permalinks) on both Apache and IIS servers, with a system of tags that allow you to customize the link structure.
- *Spam protection.* The WordPress download package includes the Akismet plugin, which provides free industrial-strength filtering of spam comments for personal sites. (Nonpersonal sites can use it for a small monthly fee.) Because it uses a central web service, it constantly learns and improves.
- *Automatic upgrades.* WordPress displays an alert when a new version is available for the core system or for any themes or plugins you have installed. You can update any of these with the click of a button (although it’s always a good idea to back up your database and files first).
- *Multiple sites from one installation.* You can expand your WordPress installation into a network of connected sites. The setup process is just a little more involved than the basic installation, and your host has to meet a few additional requirements, which I’ll go over in Chapter 2.

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<sup>4</sup><http://vandelaydesign.com/blog/wordpress/hosting>

## Easy to Use

WordPress has an amazingly user-friendly administration interface. Even Web novices can begin updating content with very little training.

- *Rich text editing:* WordPress includes the popular TinyMCE editor, which provides you with an interface similar to Microsoft Office products. For those who prefer to work with markup directly, WordPress has a basic HTML view as an alternative. The editor includes tools to import content and remove embedded styles from Office documents.
- *Media uploads and embeds:* The content editing screens include a media uploader. You'll be prompted to provide titles, captions, or other metadata based on the file type, and you can easily link to the media files or insert them directly into the document. WordPress includes a basic image editor that allows you to rotate or resize the image. It also generates thumbnails automatically that can be used in place of the full-size image. Images can be aligned left, right, or center, and can include captions as well as alternative (alt) text. It's easy to embed audio and video files from other sites into your content—just paste the URL as you edit, and when your post or page is published, the address will be replaced with the appropriate media player.
- *Menu management:* You can let WordPress build navigation menus automatically based on your pages' hierarchy, or you can define custom menus that link to the content you specify, including posts, pages, categories, tags, and links to external URLs.

## Easy to Extend

WordPress offers a robust template system as well as an extensive API. Anyone with experience in PHP can change a site's appearance or even modify WordPress's behavior. At [www.wordpress.org](http://www.wordpress.org), you can download thousands of themes and plugins to do just this.

- *Themes* determine your site's appearance and how content is displayed. WordPress is designed to let you switch themes without changing the underlying content. Theme files are simply HTML documents containing some WordPress-specific PHP functions that display information from the WordPress database. A theme can be as simple as a single `index.php` file with a stylesheet, or it might contain separate, specific templates for posts, pages, archives, search results, and so on. It might also include images, JavaScript files, and Web fonts.
- *Plugins* can add functions, template tags, or widgets; modify existing functions; and filter content. A plugin could add administration screens that give you access to new settings, or it might change WordPress's usual behavior—alphabetizing your posts instead of sorting them by date, for example.
- *Widgets* are drag-and-drop components that can be added to your site's sidebars. For example, there are widgets to display polls, Flickr photos, and Twitter streams. You can use widgets to list pages, posts, and links; provide a search box; add arbitrary HTML; or display an RSS feed. Some themes come with their own widgets; other widgets can be installed as separate plugins.

Advanced users can extend the basic types of content in WordPress by adding custom fields to the standard title, content, and excerpt fields. You can even define your own content types in addition to posts and pages. And if the built-in category and tag system isn't enough for your site, you can create custom taxonomies for posts, pages, or media files. I'll go over custom fields, taxonomies, and content types in Chapter 14.

To see just how far you can go using themes and plugins, visit [buddypress.org](http://buddypress.org). BuddyPress is a set of themes and plugins for WordPress that turns a basic site into a complete social network with member profiles, friends, private messages, forums, and activity streams. The transformation is amazing!



## The Business Benefits of WordPress

Because WordPress has built-in support for clean and canonical URLs, microformats and rich snippets, categories and tags, and standards-based themes, it does a stellar job of optimizing sites for search engines. At the 2009 WordCamp in San Francisco, Google's Matt Cutts explained to the audience that WordPress is the best blogging platform for search engine optimization purposes, and that choosing WordPress would be a good first step for any small business seeking to build an online presence.

It's easy to integrate moneymaking features into WordPress sites. Thanks to the vibrant plugin developer community, there's probably a plugin to help you integrate any third-party marketing services, ad servers, or affiliate codes you would want to use. There are even a number of e-commerce plugins that will let you turn your WordPress site into a storefront.

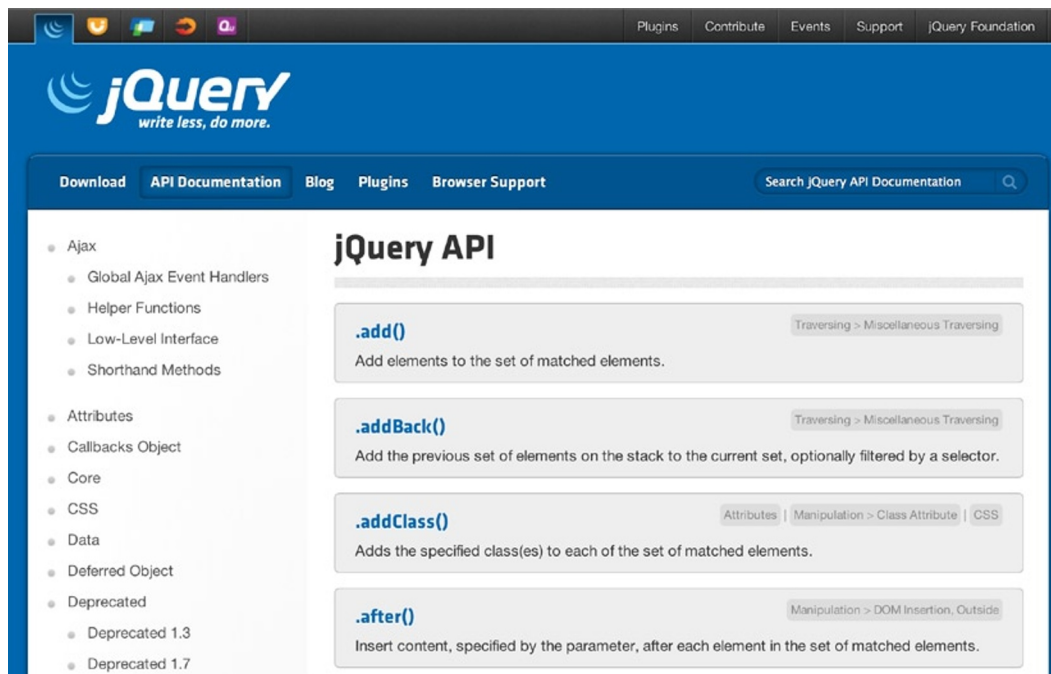
## Sites Built with WordPress

These are just a few examples of WordPress sites. As you'll see, there are virtually no limits to the designs you can create with WordPress. For more examples, visit the Showcase at [wordpress.org/showcase](http://wordpress.org/showcase).

## Web Experts and Open Source Projects

Many of the Web's most famous designers have adopted WordPress: Jeffrey Zeldman, Eric Meyer, Jason Santa Maria, Douglas Bowman, Dan Cederholm, and Aarron Walter are a few. Famous geeks Robert Scoble, Chris Pirillo, and Leo Laporte use WordPress, too.

WordPress powers the web sites of other open source projects, too. For example, it's the basis for the jQuery site (Figure 1-1), including the documentation.



**Figure 1-1.** The jQuery project uses WordPress categories to organize its documentation

## Government Web Sites

Budget-crunched government offices are turning to open source content management systems—and the results are not as dull as you might expect. The Milwaukee Police News site (Figure 1-2) is one of the most stylish WordPress sites on the Web today. Scroll down the entire home page to see their fantastic use of photos.



**Figure 1-2.** The Milwaukee Police News blog uses an innovative parallax scrolling design to mix news, statistics, and photos into a compelling presentation

## Personal Sites

Tons of public figures use WordPress for their sites. Some of their sites look more or less like blogs (Figure 1-3); others are video libraries or design showcases.



**Figure 1-3.** Author Jennifer Crusie's site is a standard blog with a quirky navigation menu

## Blog Networks

The *New York Times*, Edublogs, and [wordpress.com](http://wordpress.com) are large sites with anywhere from a few dozen to hundreds of thousands of individual blogs. These sites use the WordPress Multisite feature, hosting all their blogs from a single WordPress installation.

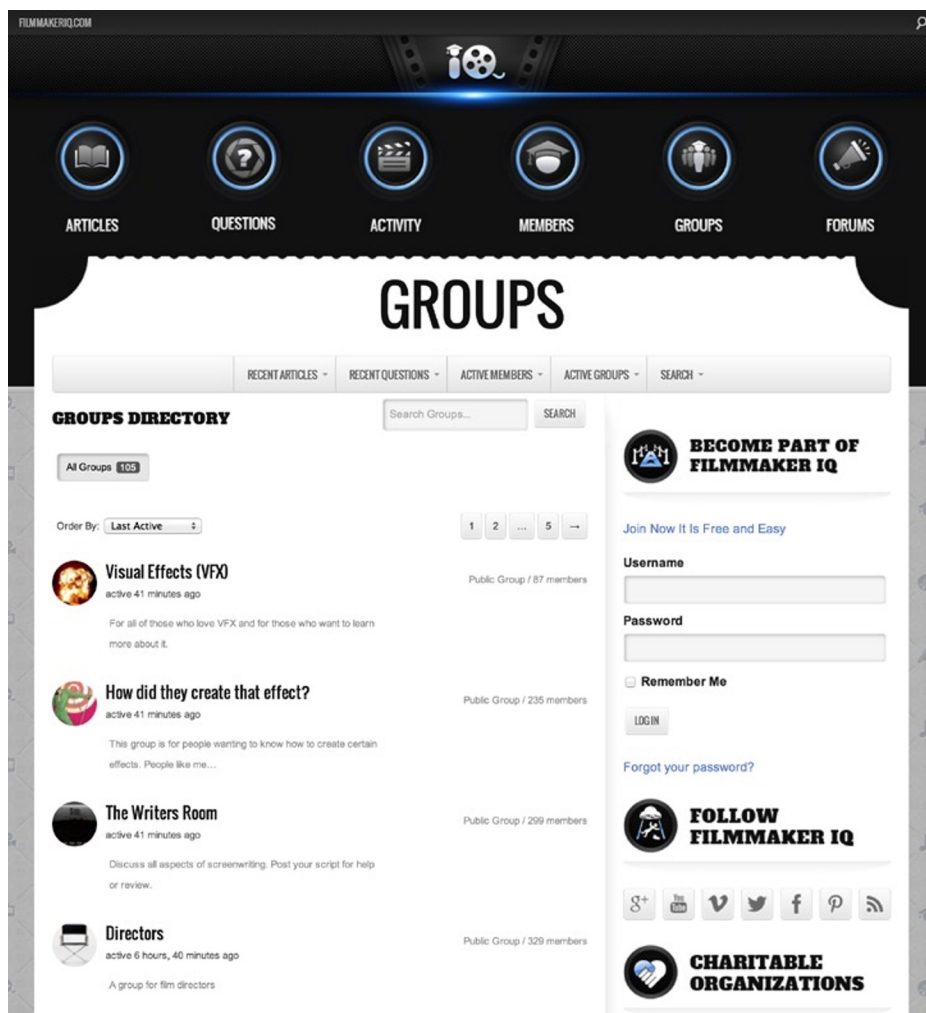
Some of these blogs include the most viewed sites on the Web. FiveThirtyEight, part of the *New York Times* network (Figure 1-4), was the star of the 2012 election.

The screenshot shows the 'Blogs' section of The New York Times website. At the top, there are navigation links for 'HOME PAGE', 'TODAY'S PAPER', 'VIDEO', 'MOST POPULAR', and 'U.S. Edition'. A search bar is located on the right with the text 'Search All NYTimes.com'. Below the navigation is a horizontal menu with categories: 'WORLD', 'U.S.', 'N.Y. / REGION', 'BUSINESS', 'TECHNOLOGY', 'SCIENCE', 'HEALTH', 'SPORTS', 'OPINION', 'ARTS', 'STYLE', 'TRAVEL', 'JOBS', 'REAL ESTATE', and 'AUTOS'. The main heading is 'Blog Directory' with sub-links for 'News', 'Business', 'New York', 'Technology', 'Culture/Media', 'Science', 'Styles/Travel/Leisure', 'Health/Family', 'Sports', 'Magazines', and 'Opinion'. Underneath, there is a section titled 'NEWS AND POLITICS' with a 'Back to top' link. The content is organized into a grid of nine blog cards, each with an icon, a title, a brief description, a 'Read' link, and 'Feed' and 'Follow on Twitter' buttons. The cards are: 'The Lede' (Remixing the news with original reporting...), 'The Caucus' (From the Washington Bureau, news and notes about government and politics...), 'City Room' (News and regular features, including Q. & A.'s, about New York...), 'At War' (Insight and images from Afghanistan, Pakistan and Iraq in the post-9/11 era...), 'Five Thirty Eight' (Rigorous analysis of politics, polling, public affairs, sports, science and culture, largely through statistical means...), 'LENS' (Visual and multimedia reporting — photographs, videos and slide shows...), 'IHT Rendezvous' (International discussion and debate for the globally engaged...), and 'India Ink' (Notes on the world's largest democracy...).

**Figure 1-4.** The New York Times blog network includes some of the busiest blogs on the Web

## Social Networks

Using the BuddyPress suite of plugins, a WordPress site can be turned into a complete social network in just a few minutes. Niche networks built on BuddyPress include FilmmakerIQ (Figure 1-5), Vivanista, Nourish Network, and Hello Eco Living.



**Figure 1-5.** The FilmmakerIQ network lets its members form special-interest groups

## Colleges and Universities

Bates College (Figure 1-6), the University of Arkansas at Little Rock, Texas Tech University, and Queens College at the University of Melbourne all use WordPress to maintain their schools' web sites. A number of schools use WordPress for individual departments, such as the Yale School of Drama, Vanderbilt University Alumni Relations, the University of Virginia Department of Environmental Sciences, Cornell Department of Music, Duke University, and Texas A&M University—just to name a few.



**Figure 1-6.** *The Bates College home page uses a stunning full-screen photo slideshow—and little else*

Universities using WordPress Multisite to create a unified presence for their main sites and departments include the University of Maine, Southern Arkansas University, Wesleyan University, Wheaton College, and Missouri State University. Many universities also use Multisite to provide blog networks for students and/or faculty.

WordPress is also a popular choice among secondary and higher-education teachers for providing students with blogs for their classroom writing projects.

## Small Businesses

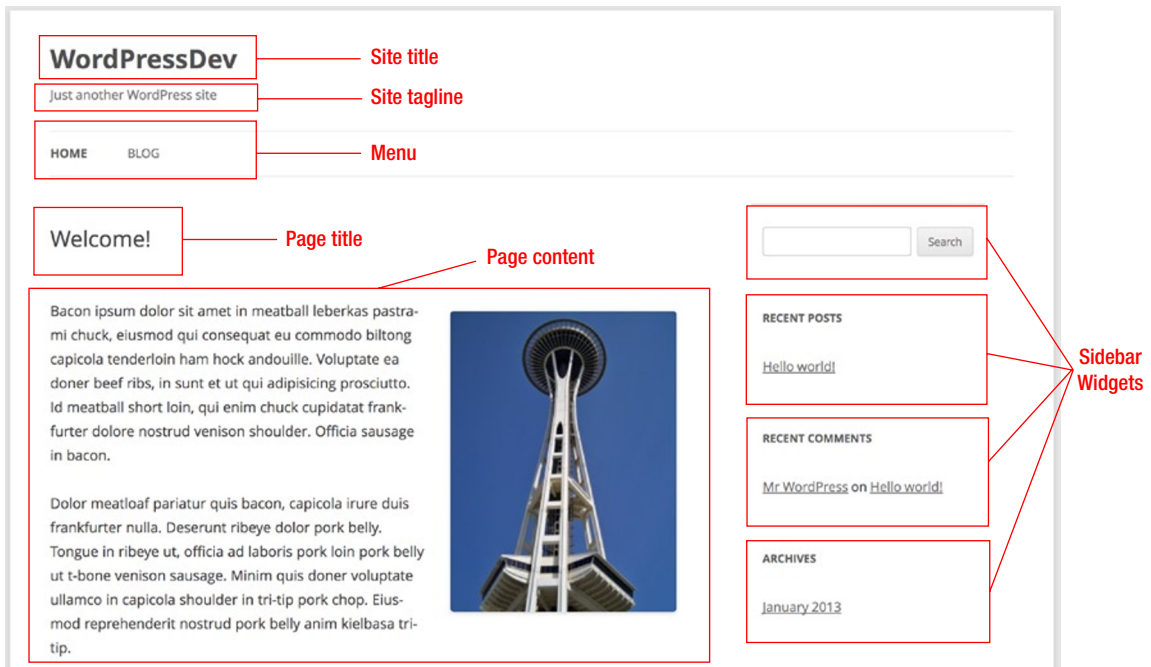
Wandering Goat Coffee and IconDock (Figure 1-7) are among the many small businesses using WordPress to run their main business sites.



**Figure 1-7.** The IconDock site is a store featuring a clever drag-and-drop shopping cart

## WordPress Tour

When you install WordPress for the first time (see Chapter 2), you'll have a simple site dressed in the lovely new Twenty Twelve theme (Figure 1-8). (If this theme is not your cup of tea, don't worry. In Chapter 2, I'll show you how to install other themes, and in Chapter 12, I'll show you how to create your own.)



**Figure 1-8.** A simple WordPress home page using the Twenty Twelve default theme

Let's break down this page and see how WordPress put it together.

At the top of the page, you'll see the site title you chose when you installed WordPress (see Chapter 2). Off to the right is the tagline ("Just another WordPress site"), which you can specify in the theme customizer or on the General Settings page (see Chapter 3).

The row of links just under the site tagline is a navigation menu. You can specify which links appear in your menu, and you can create additional menus to use elsewhere on your site. This example uses the default menu: a list of all the pages in the site.

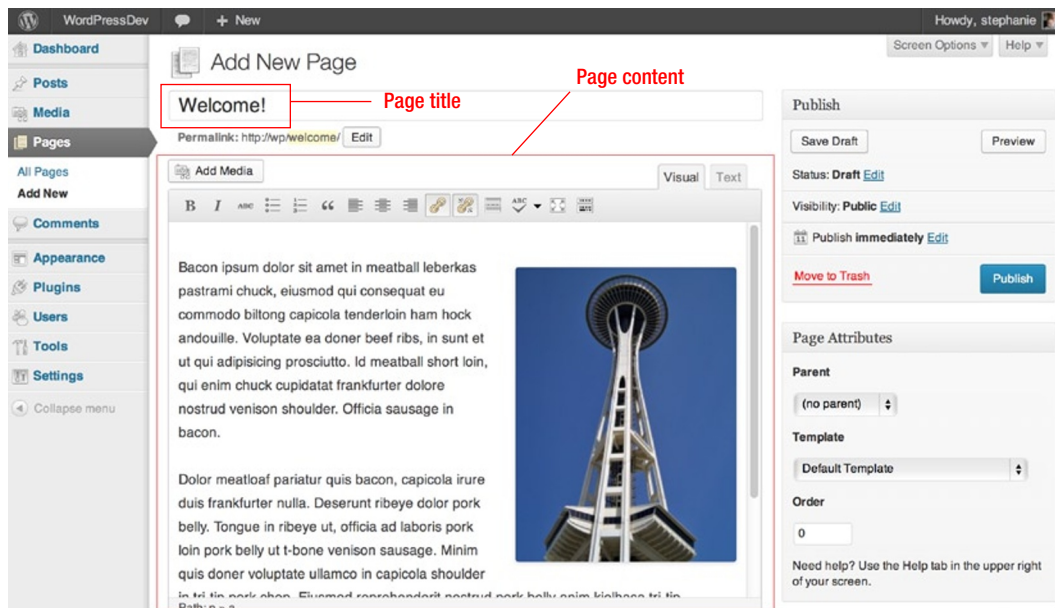
Below the header and the menu, you have two columns: the content area and the sidebar. This content area shows a page. In later chapters, I'll discuss a number of ways you can change what appears here.

This site's sidebar contains four widgets: Search, Recent Posts, Recent Comments, and a list of archives. You can add and remove widgets by dragging them into the sidebars on the Widgets administration screen in the Appearance section. These four widgets are part of WordPress's built-in set. Some of the themes and plugins you install will provide you with additional widgets, and in Chapter 13, I'll show you how to create your own.

## Anatomy of a Page

Take another look at the content area, and compare it to the page editing screen (Figure 1-9).





**Figure 1-9.** The page editing screen

Here you can see how each page is built behind the scenes. You enter your page's title and content, and the theme determines how that information is displayed. You can change the display by switching themes, or by modifying the theme you have.

Template tags are PHP functions, so if you're familiar with PHP syntax, you'll have no trouble learning to modify WordPress themes. Even if you've never used PHP before, you can begin modifying your site by copying template tags from the WordPress Codex ([codex.wordpress.org](http://codex.wordpress.org)) or a tutorial. As you grow more comfortable with the language, you'll find yourself making bigger changes with confidence.

## Summary

In this chapter, I've introduced you to WordPress. I've shown you how WordPress is easy to install, easy for you and your content authors to use, and easy to customize. I've discussed the accolades WordPress has won, and I've shown you just a few examples of the wide variety of sites that can be built with WordPress. I've gone over the components of a basic WordPress site and explained some of the terminology (like themes, sidebars, and widgets) you'll see often throughout this book.

In Chapter 2, I'll show you the famous five-minute installation process. You'll learn the extra configuration steps needed to expand your WordPress installation into a network of sites. I'll show you how to upgrade your site when new versions of WordPress are released, and how to install and upgrade themes and plugins. I'll also go over some common installation problems and troubleshooting tips.

## CHAPTER 2



# Installing and Upgrading WordPress

WordPress is famous for its five-minute installation. Many commercial web hosts offer one-click installation from their account control panels. If your host does not, you can upload the WordPress files to your web directory and complete the installation using the web interface.

## System Requirements

WordPress's requirements are modest. At minimum, your server should support:

- PHP version 5.2.4 or greater
- MySQL version 5.0 or greater
- For clean URLs, a URL rewriting module that understands `.htaccess` directives, such as `mod_rewrite` on Apache or URL Rewrite on IIS 7

Your host should list these features and version numbers in the description of hosting plans or the support area (or both).

Your host might also offer one-click installers for many web software packages, including WordPress. If you are taking advantage of this option, skip to the Initial Settings section.

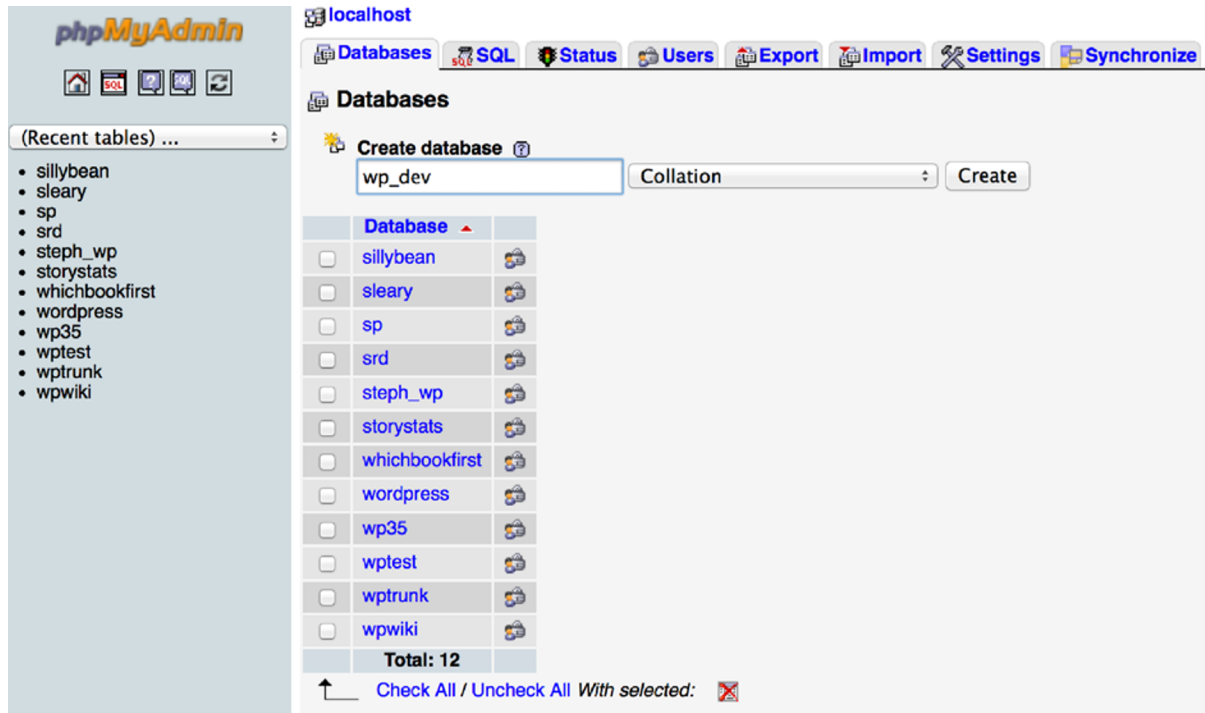
Otherwise, it's time to create a database and upload some files.

## Installation Using the Web Interface

To install WordPress, you'll need to create a database, upload the files, and run the installer. I'll walk you through the most common ways to accomplish these tasks.

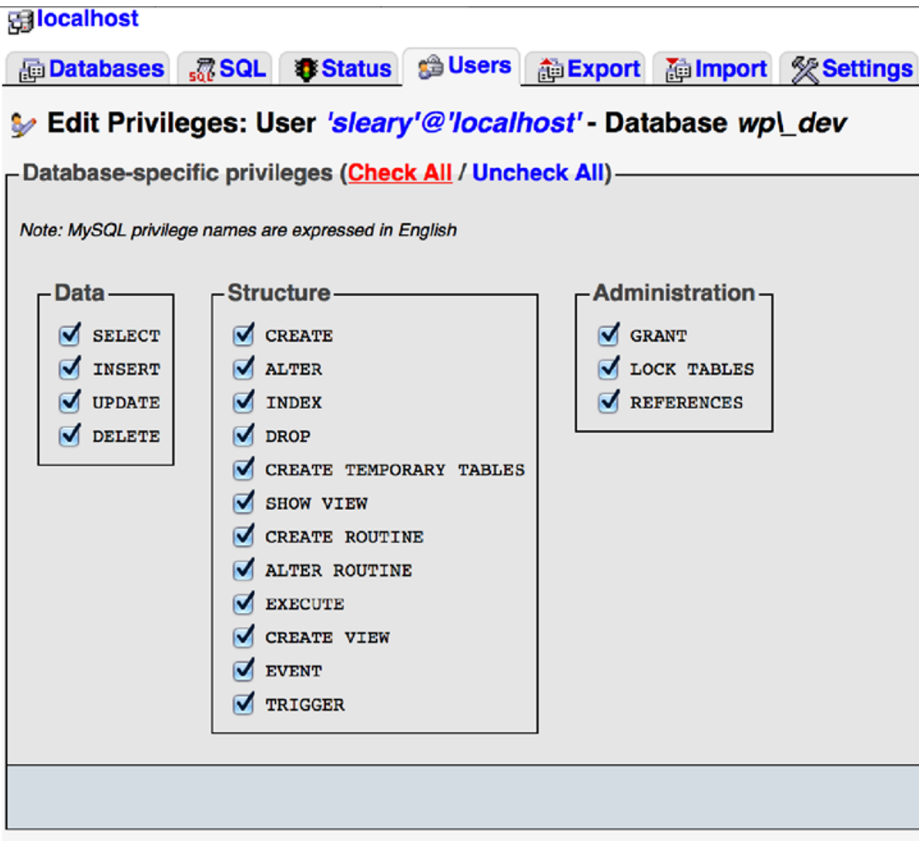
First, you'll need to set up a database for WordPress to use. If your host has already created one for you, simply locate the database name, username, password, and host you were provided (usually in the welcome e-mail you received when you signed up).

Otherwise, create a new database according to your host's instructions. Figure 2-1 shows how to do this in phpMyAdmin (the MySQL web interface most commonly used by commercial hosting companies). If you are asked to specify a character set, choose UTF-8, which will support any language. If you are asked to specify a collation, choose `utf8-general-ci`. These are the language and character settings WordPress expects, but some old MySQL installations use more restrictive character sets as their default.



**Figure 2-1.** Creating a database in phpMyAdmin

If you have the option to create a new database user, you should do so. Be sure to grant the new user all permissions on your database, as shown in Figure 2-2. In phpMyAdmin, you'll go to the Users tab and edit the appropriate user, or create a new one. Users are associated with particular hosts; here, my username is appended with @localhost. If you are creating a new user, and your database is hosted on the same server as your web files, localhost is usually the hostname you should use. Otherwise, the IP address of your WordPress installation is a safe choice.



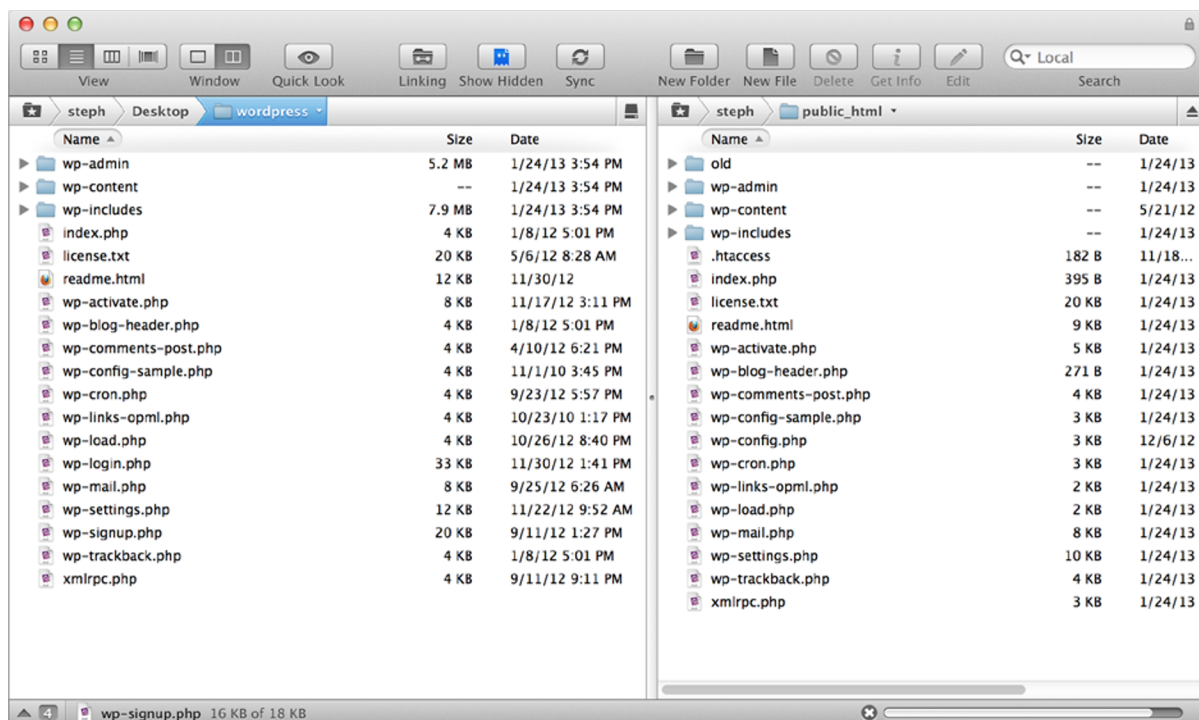
**Figure 2-2.** Granting user privileges on the new database in phpMyAdmin

■ **Note** Throughout this book, you'll see that my example site's address is <http://wp>. This is because I'm hosting WordPress locally on my laptop using MAMP, a Mac application that sets up PHP, Apache, MySQL, and phpMyAdmin in an easy-to-install package. Windows users can do the same using XAMPP. With your desktop server in place, you can create simple hostnames like localhost or, in this case, wp, rather than using fully qualified domains. See <http://sleary.me/wp5> for details on installing WordPress with MAMP.

Once you have your database credentials in hand, you're ready to install WordPress.

Download the installation package from [wordpress.org](http://wordpress.org), unzip the files, and upload the files to your web host using your favorite FTP client software (I like Transmit for the Mac, as shown in Figure 2-3, but Filezilla, WinSCP, or another program would be fine). Simply place the files where you want your WordPress site to be located; that is, if you want the site to be located at [mysite.com](http://mysite.com), upload the files to your web root folder. If you want the site to be located at [mysite.com/blog](http://mysite.com/blog), create a folder called blog and upload the WordPress files to that folder instead.

[http://codex.wordpress.org/Installing\\_WordPress\\_Locally\\_on\\_Your\\_Mac\\_With\\_MAMP](http://codex.wordpress.org/Installing_WordPress_Locally_on_Your_Mac_With_MAMP)




**Figure 2-3.** *Uploading files via FTP in Transmit*

Once you have uploaded the files, visit the site in a web browser. You will be prompted to create a configuration file (Figure 2-4). Fill in the requested information (Figure 2-5) as shown in Figure 2-6 and press Submit to complete the installation.



**Figure 2-4.** *Configuration file prompt*




Welcome to WordPress. Before getting started, we need some information on the database. You will need to know the following items before proceeding.

1. Database name
2. Database username
3. Database password
4. Database host
5. Table prefix (if you want to run more than one WordPress in a single database)

**If for any reason this automatic file creation doesn't work, don't worry. All this does is fill in the database information to a configuration file. You may also simply open `wp-config-sample.php` in a text editor, fill in your information, and save it as `wp-config.php`.**

In all likelihood, these items were supplied to you by your Web Host. If you do not have this information, then you will need to contact them before you can continue. If you're all ready...

**Figure 2-5.** Information you need before installing



Below you should enter your database connection details. If you're not sure about these, contact your host.

<b>Database Name</b>	<input type="text" value="wp_dev"/>	The name of the database you want to run WP in.
<b>User Name</b>	<input type="text" value="*****"/>	Your MySQL username
<b>Password</b>	<input type="text" value="*****"/>	...and your MySQL password.
<b>Database Host</b>	<input type="text" value="localhost"/>	You should be able to get this info from your web host, if <code>localhost</code> does not work.
<b>Table Prefix</b>	<input type="text" value="wp_dev_"/>	If you want to run multiple WordPress installations in a single database, change this.

**Figure 2-6.** Filling in the database connection information

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■ **Caution** The configuration screen suggests `wp_` for the table prefix. As a security precaution, you should always change this prefix to something else. See Chapter 9 for more information on database security.

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■ **Note** While `localhost` is the most common setting for the database host, your web host might use something different—even if the host was not included in the database settings you were given. GoDaddy and Dreamhost, for example, do not use `localhost`. Check your web host’s documentation.

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If you entered all the correct information and WordPress is able to connect to your database, you’ll be prompted to complete the installation (Figure 2-7). If not, you’ll need to double-check the database connection details with your host.



*Figure 2-7. Successful database connection and installation prompt*

## Initial Settings

Once the installation is complete, you’ll have the opportunity to create your account, as shown in Figure 2-8. In previous versions, the first user was always called `admin`, but you should choose a different username. Because that username is so common, it’s an easy target for hackers who use automated tools to guess account passwords. In April 2013, an enormous distributed attack was launched against WordPress (and other MySQL-based content management systems), in which repeated login attempts were made with the username `admin` and a thousand or so common passwords. Choose a username other than `admin`, and see Chapter 9 for more information on securing your WordPress installation.



## Welcome

Welcome to the famous five minute WordPress installation process! You may want to browse the [ReadMe documentation](#) at your leisure. Otherwise, just fill in the information below and you'll be on your way to using the most extendable and powerful personal publishing platform in the world.

## Information needed

Please provide the following information. Don't worry, you can always change these settings later.

Site Title

Username

Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods and the @ symbol.

Password, twice

A password will be automatically generated for you if you leave this blank.



Strong

Hint: The password should be at least seven characters long. To make it stronger, use upper and lower case letters, numbers and symbols like ! " ? \$ % ^ & ).

**Figure 2-8.** *Creating the admin account*

Now, visit your site's Dashboard. Its URL is the URL of the directory in which you installed WordPress, plus /wp-admin. That is, if you installed WordPress in the root directory of [example.com](#), you would go to [example.com/wp-admin/](#) to log in.

Log in using the password you just created (Figure 2-9). You should see the Welcome screen shown in Figure 2-10. We'll go over the Dashboard and the rest of the WordPress settings in the next chapter.





Figure 2-9. The WordPress login screen

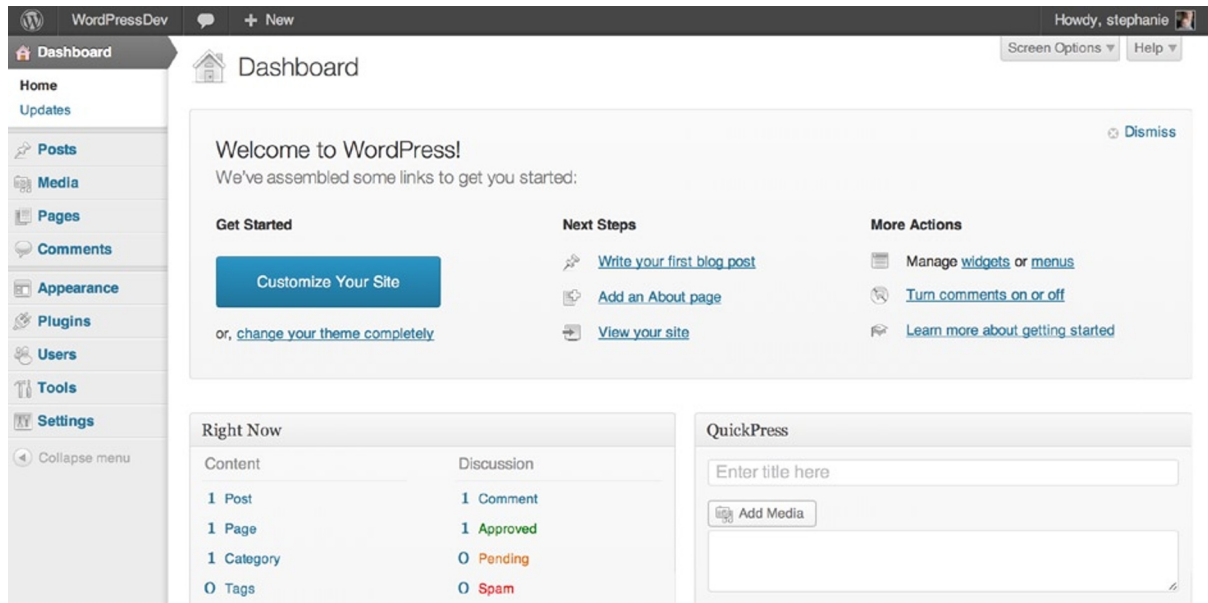


Figure 2-10. The WordPress Welcome message on the Dashboard

## Troubleshooting the Blank White Page

On most web hosts, PHP errors are logged rather than printed to the screen. This is good security; it prevents you from accidentally exposing your database password or other sensitive information if you mess up your code. However, this feature also prevents you from seeing what's gone wrong if there was a problem during your installation. Instead of a login screen, you'll just see a blank white page.

If you know where your PHP error log is, you can check its last line to see what the problem was. If you don't know where the log is, you can check your web host's documentation to find out, or you can simply turn on the error display until you resolve the problem. WordPress will not display your database connection information even if there is an error.

To display errors, find the `wp-config.php` file in your WordPress directory. Look for the `WP_DEBUG` constant, below your database settings. Change it from `false` to `true` (Listing 2-1).

### **Listing 2-1.** Debugging with `wp-config.php` (Partial)

```
// ** MySQL settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define('DB_NAME', 'my_wp_db');

/** MySQL database username */
define('DB_USER', 'my_wp_db_user');

define('WP_DEBUG', true);
```

Visit your site again, and you should see the problem. Ignore any warnings and notices, and look for fatal errors. Is there an unknown function? Look for a missing file, or simply re-upload the entire WordPress package.

Listing 2-2 shows the kind of error message you would see if one of the files from `wp-includes` were missing—in this case, `capabilities.php`. The first message, a warning, could be safely ignored, but in this case it provides us with a clue as to why the second error occurred. The fatal error is the showstopper. Resolve that problem, and WordPress should work correctly.

When you've solved the problem, switch the value of `WP_DEBUG` back to `false`.

### **Listing 2-2.** Fatal Error Due to a Missing File

**Warning:** `require(/Users/steph/Sites/wp/wp-includes/capabilities.php): failed to open stream: No such file or directory in /Users/steph/Sites/wp/wp-settings.php on line 108`

**Fatal error:** `require(): Failed opening required '/Users/steph/Sites/wp/wp-includes/capabilities.php' in /Users/steph/Sites/wp/wp-settings.php on line 108`

You can also log errors instead of displaying them on the screen. This is especially useful when you begin developing your own themes and plugins. To log errors, add the `WP_DEBUG_DISPLAY` and `WP_DEBUG_LOG` constants to your configuration file as shown in Listing 2-3.

### **Listing 2-3.** Turning on Error Logging in `wp-config.php` (Partial)

```
// ** MySQL settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define('DB_NAME', 'my_wp_db');

/** MySQL database username */
define('DB_USER', 'my_wp_db_user');
```

```
define('WP_DEBUG', true);
define('WP_DEBUG_LOG', true);
define('WP_DEBUG_DISPLAY', false);
```

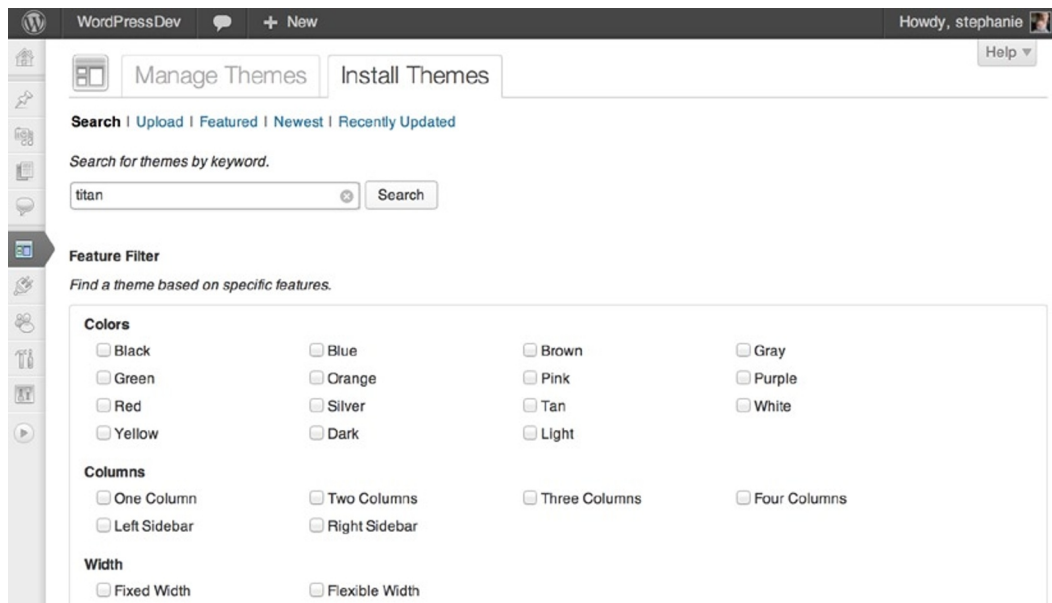
See the Codex (the WordPress documentation wiki) page on `wp-config.php`, <http://sleary.me/wp6>,<sup>2</sup> for more debug log options and PHP configuration settings that might help with debugging.

## Installing Themes

Once you have WordPress installed, you'll want to make it look good! You can change themes at any time.

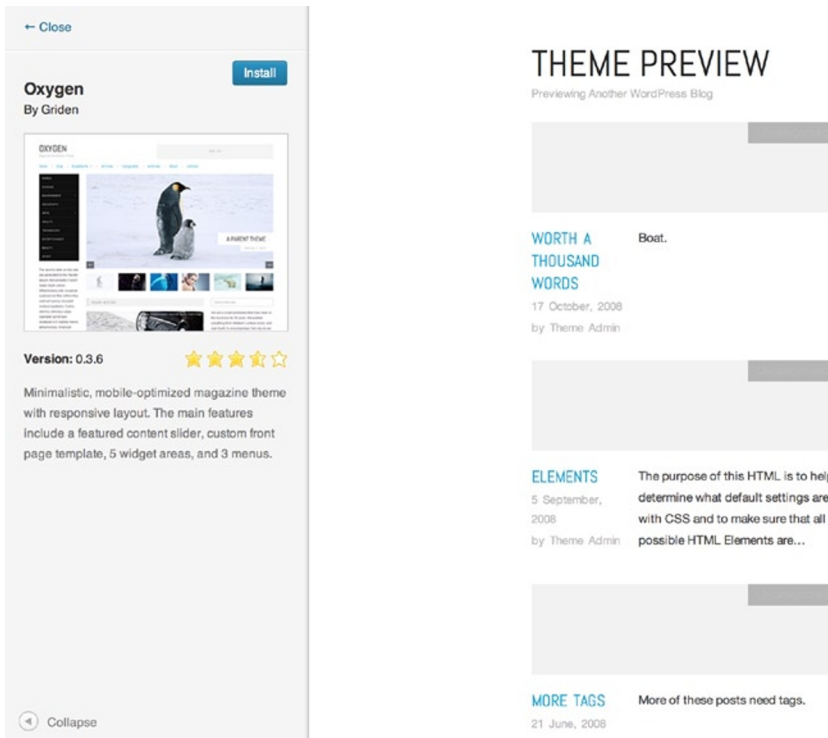
You can download theme files from [www.wordpress.org/themes](http://www.wordpress.org/themes) and upload them to your `wp-content/themes` folder if you wish, or you can use the automatic theme installer.

From your Dashboard, visit Appearance ► Themes. On this screen, you'll see two tabs, Manage Themes and Install Themes. Under Manage Themes, you'll see all the currently installed themes. Click Install Themes, and you'll see a search screen. Here, you can search for themes by name, or you can check off a list of the features you want (color, number of columns, etc.) as shown in Figure 2-11. You'll get a list of results with links allowing you to preview and install the themes (Figure 2-12).



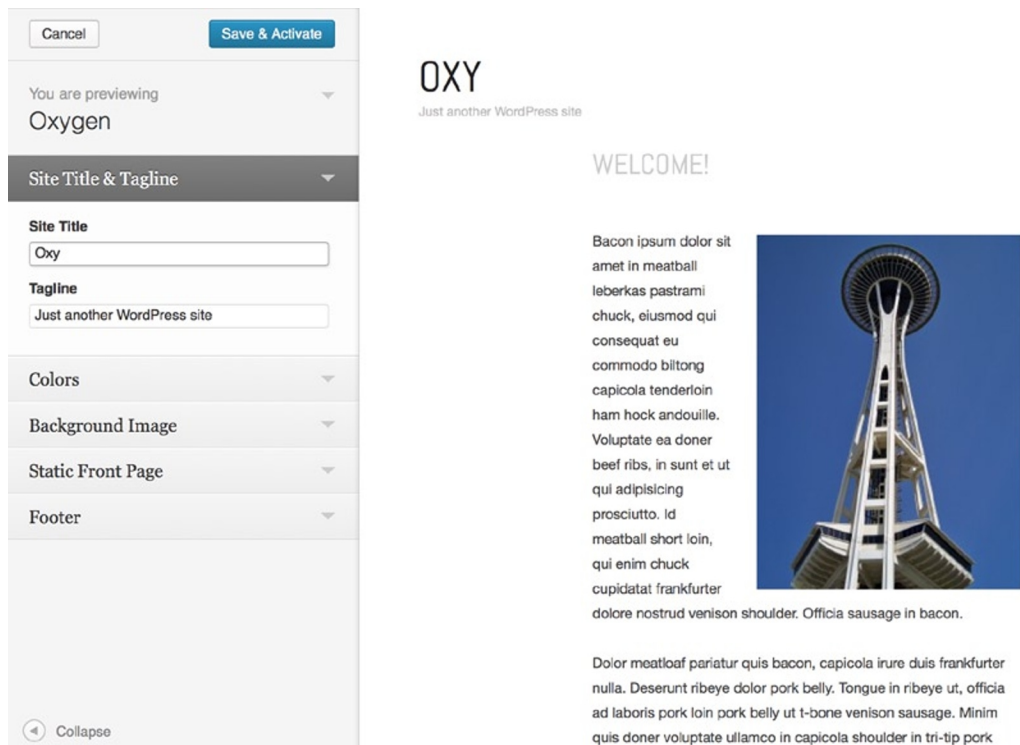
**Figure 2-11.** Choosing themes

<sup>2</sup>[http://codex.wordpress.org/Editing\\_wp-config.php#Debug](http://codex.wordpress.org/Editing_wp-config.php#Debug)



**Figure 2-12.** Installing and previewing themes

Once the themes have been installed, they'll appear in your list of themes under Appearance. Click the theme's thumbnail image to see a preview of the theme on your site. Here, the Theme Customizer (Figure 2-13) appears. You can see how the theme will look on your site, and you can adjust your title, tagline, and the settings that relate to your site's appearance. You'll see more settings in Chapter 3.



**Figure 2-13.** *The Theme Customizer*

If you're happy with the theme, click the blue Save & Activate button at the top of the screen. Otherwise, you can cancel and try another theme.

---

■ **Caution** If you decide not to use a theme you have installed, you should delete it. Even themes that are not active can allow hackers to gain access to your site if the theme contains a vulnerability.

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## Installing Plugins

While WordPress includes most of the features you would want in a basic site, sooner or later you'll probably find that you want something more. Visit [www.wordpress.org/plugins](http://www.wordpress.org/plugins) to see all the things you can add to your site. You'll see more about working with plugins in Chapter 6.

You can download the plugin files and upload them to your `wp-content/plugins` folder, just as you did with themes. However, there is also an automatic plugin installer. From your Dashboard, visit Plugins ► Add New. On this screen (Figure 2-14), you can search for plugins by keyword or author name.

The screenshot shows the WordPress 'Install Plugins' interface. The search bar contains 'simple page ordering' and shows 681 items. The results table lists three plugins:

Name	Version	Rating	Description
Simple Page Ordering <a href="#">Details</a>   <a href="#">Install Now</a>	2.0	★★★★★	Order your pages, hierarchical custom post types, or custom post types with "page-attributes" with simple drag and drop right from the built in page list. Simply drag and drop the page into the desired position. It's that simple. No new admin menus pages, no clunky, bolted on user interfaces. Just drag and drop on the page or post-type screen. The plug-in is "capabilities aware" - only users wit... By <a href="#">Jake Goldman</a> , <a href="#">10up</a> , <a href="#">Oomph</a> .
Custom Page Order <a href="#">Details</a>   <a href="#">Install Now</a>	2.2	★★★★☆	Order Up! A series of plugins for WordPress which allow for the ordering of pages, posts, and taxonomies through a simple drag-and-drop interface using the available WordPress scripts and styles. The plugins are extremely lightweight, without a bunch of unnecessary scripts to load into the admin. They also fall in line gracefully with the look and feel of the WordPress interface. By <a href="#">Drew Gourley</a> .
Simple Page Specific Sidebars <a href="#">Details</a>   <a href="#">Install Now</a>	2.14.1	★★★★☆	Page Specific Sidebars adds a checkbox to every page allowing you to choose which pages should have a unique sidebar. Once you enable a page-specific sidebar in the page editor, a widget area will automatically be created for that page and you can customize it as you like. You can also specify whether the plugin replaces your generic sidebar with the page-specific sidebar, or simply adds your pa... By <a href="#">IvyCat Web Services</a> .

**Figure 2-14.** Searching for the Simple Page Ordering plugin

Once a plugin has been installed, it will appear in your plugin list. You'll see a brief description of what the plugin does, a link to its home page, and a link to activate it.

---

■ **Caution** Every plugin you add to your WordPress site represents a potential security problem. See Chapter 6 to learn how to use the ratings and other plugin details to evaluate plugins before you install them.

---

Try activating Hello Dolly, the sample plugin that comes with WordPress, using the Activate link under the plugin's name. When the plugin list reloads, you'll get a message confirming the activation. You should also see a lyric from "Hello, Dolly" in the upper right corner of your screen, as shown in Figure 2-15.