Chapter 1: Introduction
The weeks have flown by, and you've arrived at the final lesson. Almost time to break open the champagne!

But first, we have a few more topics to cover. In this lesson, you're going to peek behind the curtain to see what makes WordPress tick.

At the heart of WordPress is a zone of PHP code known as the Loop. The Loop displays the main content we see on every WordPress website. It's what allows us, among other things, to create blog pages featuring posts that appear in a certain order. And by modifying the Loop, you can make a WordPress page do pretty much anything you want. You'll find out about template tags that make the Loop flexible, and we'll use them to customize our theme.

If deep coding doesn’t interest you, no problem. WordPress as you’ve seen is full of high-level customizability, loads of plugins, and other ways to modify your site. You never have to get into PHP at all. If this describes you, please just pick and choose what you want to experiment with in this lesson.

After exploring the main loop, it's on to more tips, tricks, and hacks. You'll get a taste of some code changes, plugins, and strategies to make your site into a sophisticated and user-friendly content management system.

Ready? Let's get started. I'll see you in Chapter 2!

Chapter 2: Making the Loop Work for You
To understand what the Loop is and how it works, we need to review how WordPress displays Web pages.

Way back in the lesson on themes, I mentioned that WP templates are written in the HTML markup code and the scripting language known as PHP. HTML (along with its partner CSS) controls how each
page element is displayed, and PHP retrieves the content from the WordPress database where it's stored. WP can display that content in different configurations, depending on the way the template is organized.

The Loop cycles through the content to present it in the formats, or templates, that the theme developer has chosen. All the major theme page and post templates feature a version of the Loop. It follows the same basic structure in every template, but you can customize it with premade snippets of code known as template tags.

**The Anatomy of the Loop**

If you've never seen it before, PHP is a little scary looking. But don't worry! You won't be questioned on the specific makeup of the Loop on the quiz or final exam. I'm including it here in case you're interested in going a little further with WordPress by developing new themes or plugins. This will give you an idea of the coding you'll be using.

Here's a generic sample of the Loop that would appear in a theme's Main Index template, which controls the blog page. Because it's written in PHP, I'll translate the code into plain English. Here's how it begins:

```php
<?php if (have_posts()) : ?> This line tells WP to check for published posts. If it finds any, the next line will start the Loop.

<?php while (have_posts()) : the_post(); ?> When there are posts, the Loop will go through each post until it reaches the last. The second part of the line, the_post(), tells WP to display each post.
```

The next section of the Loop is augmented with template tags, which tell WordPress to do or get something. In this case, the template tags ask WP to do the following:
Next is the portion of the Loop that processes the post's content:

```html
<div class="entry"> The HTML <div> tag formats the content of the post.

<?php the_content('Read the rest of this entry &raquo;'); ?></div> In the Settings area, you can decide whether to display the whole post here, or an excerpt with a link to the original post.

<p class="postmetadata">

Posted in <?php the_category(', ', ''); ?>

<?php comments_popup_link('No Comments », '1 Comment »', '% Comments »'); ?></p>
```

The last part of this sample is where you can display the post's category and a link to the Comments box:

After the Loop has gone through the posts, you would close it like this:

```html
</div> This closes the DIV "entry" HTML tag above.

<?php endwhile; ?> This line stops the Loop, so the rest of the template can be processed.
```
To summarize, the Loop plows through your articles, determining which content to show and how to display it. To customize the look or to add functions, you can insert template tags into the Loop or the other sections of the page template.

Where do you find these template tags, and how do you know what's available? On the Theme Editor page (Appearance > Theme Editor), there's a convenient drop-down that displays every available tag when you open a template (php) file. When you click the tag, a new screen opens, telling you how to use it.

(Check out the Supplementary Material section to find links to tag reference lists.)

Let's give this a whirl. We'll go into the Marina theme templates and change the tags within the Loop.
We're going to amend one piece of the metadata—the publish date—just below the post headlines.

Go to the front end (what the public sees) of our class website, and open the “What’s New” page. Scroll down to the post titled "Keeping Pond Water Clear."

Notice that the author's username and the date of publication appear under the headline and just above the content. This information comes from the theme's `<?php the_author(); ?>` and `<?php the_time('F - j - Y'); ?>` template tags.

If you don't want to use a recognizable username on your posts, you can prevent it from appearing. Here's how to do that:

1. Open the theme editor in the back end, at Appearance > Theme Editor.

2. Click the Main Index Template in the right column to open the blog page template. You'll now see the template list (labeled "Documentation") under the text editor.

3. IMPORTANT: Copy and paste this code into Notepad—all 52 lines—to back it up and save it.

4. Locate the line you want to change. It's within the "titlemeta" div (on or about Line 11).
5. Delete the word **by** and the *author tag*, so the line looks like this:

\[
<\text{span class="author"} > \text{Posted on } \text{<?php the_time('F - j - Y'); ?>}</span>
\]

6. Click **Update File**, and open the front end **Articles** page to see that the author reference is gone.

**TIP:** Sometimes after clicking **Update File**, WordPress takes a bit of time to make this change. Just give it time. If you get a message saying that the change probably wasn’t made, just click the **Update File** button and try again. If you still can’t get results, you can try uploading and replacing this file via FTP.

---

**Keeping Your Water Clear**

POSTED ON APRIL -24 - 2018

Post metadata after change

Good work! Note that this change will affect only the **Index** template we updated. On our site, that's the template that formats the blog (which we've titled "What's New") but not individual posts. When you click a post's title on the blog page, WP opens the post on its own page. If you want to see the same formatting on those individual post pages, you'll need to make the same changes to the **Single** template.

**Which Template Controls Your Pages?**

To find out which template is controlling each of your Web pages, install the **Reveal Template** plugin. It will display the template in use in the page's footer. You can keep the plugin deactivated when you don't need it—that way, visitors won't see the template name in the footer.
Want to remove that hidden link from the website's footer? This also requires working on a template file.

**Remove a Footer Link**

Back in Lesson 3, I showed you that the designer added a link to an ad for Las Vegas condos. In the unlikely event that a visitor clicks that link and ends up buying a condo as a result of the ad, the designer would earn a percentage of that sale. But it makes the site look cheap, doesn't it? So let's do away with it.

1. Go to Appearance > Theme Editor, and click the **Theme Footer** template in the right column. Again, back up this code by saving it in a Notepad .txt file. If something goes wrong, you’ll be glad you have a way to undo the modifications.

2. Find the line that begins with the word Design (Line 7).

   ![Commenting out the hidden link](Commenting%20out%20the%20hidden%20link.png)

   We'll "comment out" this link, so people can't see it. (*Commenting out* is programmerspeak for disabling a line or section of code, so it won’t execute. In this language, any code between the start-comment symbol `<--` and the end-comment symbol `-->` is ignored by the computer when the code runs. Doing this makes the text a comment instead of executable code—and comments are just for the programmer’s info, not tasks you want the computer to carry out.)

3. Type a less-than symbol, an exclamation mark, and two hyphens (`<![`-) before the word Design.
4. At the end of the tag, </a>, enter two hyphens and a greater-than symbol ( --> ).

5. Then click the Update File button.

Now go back to the public pages and check the footer: The link should be gone.

Do you like making these hacks to WordPress? Come to Chapter 3, where I'll show you a few more!

Chapter 3: WordPress Tips and Tricks

Have you ever visited a website and wondered how its designer created a certain look or style? Finding out is easier than you might have imagined!

Name That Theme

Have you seen a WordPress website you love but can't tell what theme it's using? Here's a site you can visit: WordPress Theme Search (http://whatwpthemeisthat.com/)

Just enter the URL, and within seconds, it will tell you the theme's name and some of the plugins it's using.

But to examine the design in detail, you'll need to do some digging. The first step is to examine the site's HTML. That's easy to find.

1. With the Firefox and Chrome browsers, right-click the Web page, and click View Page Source. In Internet Explorer or Edge, right-click the page, and then click View Source.
Your browser will open the page's HTML script. It shows you how the designer structured the site and how he or she named the HTML elements. It also lets you open the style sheet.

2. Look for the line that begins `<link rel="stylesheet."` Click that link to open the site's style.css file.

```html
/*
Theme Name: Marina
Theme URL: http://www.web2feel.com
Description: Free WordPress theme released by web2feel.com
Author: Jinsona
Author URI: www.web2feel.com
*/

*{ margin:
0px; padding:
0px; }
```

In this example, I've opened our Marina theme's style sheet. Unless it's a custom design, the style sheet lists the theme's name at the top.

In Lesson 8, remember how we used the browser’s Element Inspector to identify Web page elements on your own site? You can do the same by opening an Element Inspector app on any website you visit.

So if you want to know things like the exact color of a certain background, or the typeface name of a particular headline, simply open the Inspector.
While you certainly shouldn't copy an entire style sheet and use it as your own, it's perfectly okay to look at other sites' CSS property values and apply them to elements on your website.

Create an Iconic Identity

No doubt you've noticed those little icons that appear in the title tabs of many websites. They're known as favicons, and it's simple to add one.

1. First, you have to create a favicon by editing your logo or any other image you want to use. The image must be square and at least 512 pixels wide and tall.

   If you want an icon to practice on, right-click the image below, and save it on your hard drive.

   ![Right-click image and save as koi.png.](image)

2. Now Go to Media Library > Add New, and upload the icon,

3. Go to Appearance > Customize, and open the Site Identity area,

   ![Direct your attention to the Site Icon section.](image)
3. Click the **Select Image** button and select the koi icon from your media library.
4. Click **Select**.
5. Click **Skip Cropping**.
6. Click **Publish**.

You might have to refresh your browser several times before the new favicon appears in the tab. Here’s the tab with our new logo:

![New favicon](image)

**Going Mobile**

With so many people using their phones to access the Internet, it's important that your website creates a big impression on a small screen. WordPress makes that easier with a group of plugins that automatically detect and adjust to mobile browsers.

Chances are your theme is *responsive*, meaning that it automatically reformats itself when viewed on a mobile phone or other small screen. But if you don’t like the theme’s approach to mobile display, you can try one of these alternates:

**Jetpack mobile theme**

My favorite is the Jetpack’s Mobile Theme. To install it, go to Jetpack (just under the Dashboard submenu), and click **Settings**. Click the **Writing** tab, and scroll way down the page to the **Theme Enhancement** section. Click the button next to **Enable the Jetpack Mobile theme**.
The Jetpack theme includes a pop-up menu and search function above the main content, which fits the mobile screen's narrow width. Widgets and other elements appear below the page text.

Jetpack Mobile theme

WPtouch is another popular mobile theme, available as a free download and in a souped-up paid version. It has an option to let your visitor decide whether to view your site in a touch mobile format or with its regular theme.

WP Dashboard in WordPress for Android

The WordPress for Android (download to your cell phone from http://android.wordpress.org/) allows you to keep your WP website updated from your phone, wherever you are. It has its own Dashboard, a formatting toolbar, and it'll let you add and format images.
Controlling Contributors

As you probably recall, content management is the system that allows non-technical people to contribute information to a website. One way WordPress makes that easy is by including the Visual editor that lets you write in plain English, without the need to add HTML tags.

Another mark of a good content management system is the ability to control what users can and can’t do when they're logged in to the website's administrative area. For example, you probably don't want to let some contributors publish their own articles until an editor has reviewed them.

By creating a series of roles, WordPress lets you decide on how much authority each user can have.

For anyone to access your site's back end, you must include them by going to the WP menu and clicking Users > Add New. You'll create a username, enter the contributor's name and email address, and assign a password. There's an option to automatically send the user's password by email.

The last step is to define the user's role. Out of the box, WordPress has created these choices.

<table>
<thead>
<tr>
<th>Role</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Super Admin</td>
<td>Controls every aspect on multiple websites</td>
</tr>
<tr>
<td>Administrator</td>
<td>Has access to every feature in the back end</td>
</tr>
<tr>
<td>Editor</td>
<td>Has authority to publish and manage everyone's posts and pages</td>
</tr>
<tr>
<td>Author</td>
<td>Can publish and manage only his or her own articles</td>
</tr>
<tr>
<td>Contributor</td>
<td>Can write and edit content but cannot publish anything</td>
</tr>
<tr>
<td>Subscriber</td>
<td>Can manage his or her own profile, nothing more</td>
</tr>
</tbody>
</table>

To further define responsibilities, install the User Role Editor plugin, which gives you dozens of extra choices for each user level.
In the next chapter, we'll explore a few more tips and tricks, including suggestions for keeping your website secure and running smoothly!

Chapter 4: More Tips and Tricks

Let's look at some final tips and tricks before we wrap up this course! We'll start with our top priority: website speed.

Speed Up Your Website

Nothing will drive away visitors faster than a slow-loading website. This graph, from KISSmetrics Analytics, indicates that if it takes four seconds for your page to load, you've already lost a quarter of your visitors.
If you think your pages are sluggish, check them online. Do a Google search for "test page load times." In addition to the actual load time, most of these sites will give you a free analysis of what's slowing down the page.

- **WP Super Cache plugin**: Left to its own devices, WordPress creates Web pages dynamically, putting the elements together each time a visitor opens a page. By creating static HTML pages for the server to send, the WP Super Cache plugin can significantly speed up delivery time without affecting the content. But this plugin has a history of interfering with other plugins, so I suggest that you install it only when your site appears to be running slowly.

- **Revision Control plugin**: Every time you correct or update a page or post, WordPress will save a version in its database. After a while, it could be storing 20 or 30 revisions of every page on your website, and that's going to slow things down. The Revision Control plugin lets you decide how many versions of each page to store. Processing time will improve when you set it to just three or four.

Too many plugins can also put the brakes on a WordPress website. Check your installed plugins on a regular basis, and deactivate any that you're not currently using.

**Keep Your Site Secure**

Now that it's the world's most popular content management website publisher, WordPress has become a target for those bad guys known as hackers. There are a few things you can do to protect your site from hackers. Let's take a look!

- **Hide Your Version Number**: Hackers can do more evil when they know which WordPress version you've installed. To find out, they can simply check the header in your HTML page
source. But you can hide the version number by installing the Hide-WordPress-Version plugin. (If you've installed Wordfence, you won't need this plugin.)

- **Scan Your WP Files:** The WP Security Scan plugin examines your installation and lets you know how to correct any vulnerability problems.

**Turn Your Website into a Blog**

Would you prefer a home page that displays your latest posts instead of a static page? A dynamic home page, or blog, works best when you want to spotlight information that you update frequently. Let's do that now.

1. Go to **Settings > Reading**, and change the first option ("Your homepage displays") to **Your latest posts**.

   ![Reading Settings](image)

   **Changing home page display**

   2. Click **Save Changes**. Now your website is a blog, with posts on the home page.
When you set up your site as a blog, you won't find the home page anywhere in the back end. As we discussed earlier, the Loop controls the blog page, drawing from your latest posts. If you need to edit any of the articles in a blog, just open the back end version of the specific post you want to change.

WordPress normally puts your most recent post at the top of the blog. But you can create a welcome post that stays at the top, even when you add new articles. Here's what you do:

3. Create the welcome message as a new post, and look for the Visibility line in the Publish module.
4. Click Edit, and then check the box next to Stick this post to the front page.
5. Click the OK button, and then click Publish.

This "sticky post" will remain above the other posts.

**Migrate WordPress**

It's not very difficult to move a website from a subdomain to a main domain on the same hosting server. You'll find the instructions in the FAQs for this lesson. But it can be tricky to migrate a site from one server to another. That's because you'll need to relocate the core WordPress files and the database, which stores the site's content and settings.

Fortunately, there's a terrific plugin that can help. It's called *All In One WP Migration*, and it's free! Using it couldn't be easier. Click an Export button on the site you're moving, and the plugin backs up all your files plus the database. Then install the plugin in the destination domain, click Import, select the
backup file, and your site is up and running on the other server. This plugin handles many of the extra chores you'd face when using a basic backup plugin. It even changes all the links, so they work on the new domain.

**Where Do You Go From Here?**

The sky’s the limit! If you want to develop WordPress themes and plugins, you'll need to know PHP coding. Here's a link to an excellent online class that will show you how to use PHP to manipulate databases.

https://www.ed2go.com/courses/computer-programming/programming-classes/llc/introduction-to-php-and-mysql

If you're more of a designer, you'll benefit from additional training CSS and HTML training. Here's a recommended course.


Already designing websites? WordPress will be a major addition to your arsenal, allowing you to create better-looking and more functional websites in far less time than using standard HTML coding. Likewise, if you're in the market for a job, you've gained an in-demand skill. Knowing WordPress can make you valuable to the ever-growing number of businesses and organizations who've adopted WP as their Web publisher.

I hope you'll also consider using your new talents to help your community. Volunteer your services to create or improve websites for non-profits, political organizations, or community groups.

Above all, keep your skills sharp by practicing. And follow WordPress developments by subscribing to and visiting WP-related blogs and websites.

Wondering what you'll do when you can't access our Discussion Area anymore? Here are a few suggestions to ease any concerns:

- **Read the documentation.** Chances are, the answer is contained in the instructions included with the theme or plugin that's causing the problem. Particularly when you're using a new theme, avoid the temptation to just jump in without first reading the designer's directions or watching any instructional videos. If there's no documentation, check the developer's online forum pages.

- **Do a search.** When you can't find any information on the theme or plugin site, search
Google or Bing for solutions. This works quite well when you receive an error message: Copy part of the message and paste it into your browser's search bar. You should see links to dozens of answers to others who've had the same problem. And solved it.

Searches also work well when you're looking for a specific kind of plugin or theme.

Enter *wordpress plugin* in the search window, followed by the function you want. For example, if you're on the hunt for a utility to erase hundreds of post comments at once, try something like this query: *wordpress plugin, bulk erase comments*.

Googling is an art you can learn. In fact, before you do another search, Google this query and read some of the tutorials listed: *google search better*. It’s time well spent.

- **Check out the Codex.** For questions about WordPress itself, the Codex is a valuable resource. It’s a huge online manual that covers every aspect of WordPress. While it's not the best-organized document, and its explanations can be clumsy, the Codex covers every aspect of WordPress. Its main page is at Codex wordpress Opens in new window.

Before we wrap up in the next chapter, see if you can figure out which of these tips and tricks you can use to enhance your WordPress website.

**Chapter 5: Summary**

A multifaceted application like WordPress includes many important bits of information that don't fit in traditional categories. This final lesson represents an effort to keep some of these helpful factoids and tips from falling through the cracks.

You learned about the WordPress Loop, the heartbeat of the application, and the template tags that customize your website. You discovered where and how to make changes to the basic WordPress structure. And we examined strategies that included making your site run faster, keeping it secure, and moving it to a new location.

Congratulations! You're now well on your way to becoming a WordPress pro. I hope you'll continue to use and experiment with WP to learn more about all the ways it can help you create truly exceptional websites.

WordPress has leveled the Web design playing field, allowing just about anyone to build a site that can do just about anything. Much of the credit goes to the generous WordPress open source community,
whose members donate their time to produce attractive themes and brilliant plugins for all of us to use at no cost. If you decide to develop your skills further, please give some thought to joining the community as a volunteer.

I hope you've printed out these lessons, so you can refer to them in the future. We've compiled a fairly extensive index to help you find each topic. You'll find it when you click the Resources link at the top of your classroom pages. That section also contains some book recommendations and a list of research tools you might find helpful.

Please accept my thanks for your attention and interest over the last several weeks. It's been a pleasure working with you, and I wish you the very best!

Final Steps

Now that you've finished the last lesson, you have a few more things to do:

- **Check out the Supplementary Materials for this lesson.** As always, these are I think helpful resources.
- **Do the assignment and take the quiz:** These activities will help you master the material in this lesson and prepare for the final.
- **Take the final exam:** To complete the course, you'll need to take the final exam. You only get one chance, and it’s the only graded activity. The final exam is cumulative—it covers everything in the course—and it’s “open book” (you can have the classroom open as you complete it). To access the final exam, go to the course Learning Path and find the **Final Exam link** at the bottom.

Before You Go...

- **Be sure to look at the additional resources:** When it comes to a topic like this, there's always more to learn. You can find the link to these resources by clicking on the Resources tile on the Learning Path.
- **Do a course evaluation:** If you’re inclined, please take some time, either before or after you take the final, to fill out a brief evaluation. Your feedback can help us make the course better.
- **Visit the Discussion Area:** The Discussion Area will be open for two more weeks after Lesson 12's release, so please feel free to stop by and ask any questions and share your thoughts.