In Tutorial 04 we will examine WordPress Widgets, review comments and discussions, learn how to replicate WordPress sites by migrating them to other platforms, and introduce the WordPress custom plugins. We continue our PHP education by intruding PHP classes and objects and cover function argument variations or default, optional, as pass by reference.   
  
Note: There is a tutorial template file to download, rename and submit to D2L. Tutorials are required.

Web host tools used in the Tutorial:  
(1) Shared Web Host SiteGround

(2) Pantheon as a Service (PaaS)   
 – Substitute for Shared web host for those with PaaS accounts.

(3) Cloud Web Host – Codeanywhere

Tutorial 04 Parts Index  
Part A – Getting started with this tutorial

Part B – Build shared web host or PaaS WordPress site  
Part C – Flesh out the Tutorial WordPress site with images, a theme, and a menu, category, tags, Pages and Posts.

Part D – Extending WordPress with Widgets

Part E – Review WordPress Comments and Discussion  
  
Part F – WordPress Site Migration Shared Web Host 🡪 Codeanywhere

Part G – Introducing WordPress Custom Plugins – Environment Configuration  
Note: Custom Plugin covered for all 3 platforms, SiteGround, Codeanywhere & Pantheon Paas.   
Pantheon users – You must install an SFTP tool like FileZilla for file transfer.  
  
Part H – PHP Continued  
 H.1 - Introducing PHP Classes and Objects  
 H.2 - Default and Optional Function Arguments  
 H.3 - Pass by Value and Pass by Reference in PHP Function Arguments

**Part A – Getting started with this tutorial**

1. Download the Tutorial 04 assets zip file, template and instruction files from D2L.  
   Expand the asset file on your computer
2. Rename the template file by adding your full name to the front of the template file name.
3. Open the renamed template file for editing. Go to **Part A** and add your name and contact info.

Part B - Create a WordPress CMS on Shared Web Host or Pantheon

Create a WordPress CMS on your shared web host (or Pantheon PaaS) account.

(B.1) If using a Share web host account:

* 1. **Software setup:**
     1. Protocol: http:
     2. Domain: Select the default domain
     3. In Directory: “**tutorial04**” (***all lower case***)
  2. **Site Settings:**

1. Site Name: [**Your Initials]** - **Tutorial 04**
   1. Substitute your first name for **[Your Initials]**
2. Site Description: **Tutorial 04 WP CMS**
3. **Enable Multisite (WPMU): Do not enable Multisite** 
   1. **Admin Account:**
4. **Admin Username:** select default or create one
5. **Admin Password:** select default or create one
6. **Admin Email:** Accept default or add one
   1. Only use default email if you established an admin email on your web host
   2. **Choose Language:** - **Set language to the default of English**
   3. **Select Plugins**
      1. **Limit Login Attempts – Uncheck this option**
      2. **Classic Editor – DO NOT Enable (uncheck) this option**
   4. Advanced Options:
      1. Database Name: select default 🡺 Write this down
      2. Table Prefix: select default 🡺 Write this down
      3. Do not change the Backup location
   5. ***Before you press the install button***, make sure you have recorded the site login credentials
   6. ***Press the Install button and wait for confirmation page to display***
   7. ***Press the Install button and wait for confirmation***
   8. Open the Tutorial 04 Template and record host account and website information in Part B [B.1]

**-OR, if using Parthenon instead of a shared web host-**

**(B.2) If using Pantheon:**

1. Create Your Pantheon Site
   * + Name Your Pantheon Site: **[Your initials] – Tutorial 04 PA**
     + Choose an Organization for the Site: Set to None
2. Choose Your CMS: Select the Deploy button for WordPress
3. Select the "Visit your Pantheon Site Dashboard" button
4. Select the Install WordPress button
5. Configure your WordPress Site as follows:
   * + Language: English (United States)
     + Site Title: **[Your Initials] –Tutorial 04 PA**
     + Username: enter in a username 🡺 Write this down
     + Password: use default or enter a strong password 🡺 Write this down
     + Email: use your Pantheon login email
6. Press Install the WordPress site
7. ***Before you press the “Install WordPress” button***, make sure you have recorded the site and login credentials
8. ***Press the Install button and wait for confirmation***
9. Open the Tutorial 04 Template and record PaaS account and website information in Part B [B.2]

NOTE:   
In this tutorial, we will do a WordPress site migration from Codeanywhere.

If you already have a Codeanywhere WordPress site created, please destroy it and make a new WordPress site for the migration in Part F.

**Part C -** Flesh out the Tutorial WordPress site with Images, a Theme, and a Menu, Page, Post, Category and Tags.

**Part C.1 Add Images**

1 Add the following images (one or two at a time, but not all at once) from the Assets “Tutorial Site Page Images” folder to the WordPress **Media Library**

* BlackSquirrel001.png
* FoxSquirrel001.png
* GraySquirrel001.png
* RedSquirrel001.png

Part C.2 – Extend WordPress with Themes

1. On the WordPress site Administrative Back-End dashboard select Appearance
2. Under Appearance select Themes
3. Make sure the Twenty Twenty theme is the Active theme. If it is not, set the Active theme to Twenty Twenty

Part C.3 – Extend WordPress with Menus

1. Create a new main menu “**My Menu**”
   1. Select: **Dashboard > Appearance >Menus**
   2. Enter a Menu Name of “My Menu” where it says “enter menu name here” and press the “Create menu” button
   3. After creating the menu, select (check) all the check boxes at the bottom of the menu page then press the “**Save menu**” button
   4. Checking the boxes at the bottom:  
      (1) Auto add pages – Select Automatically add new top-level pages to this menu   
      (2) Display location – Select Desktop Horizontal Menu & Mobile Menu.

Part C.4 – Extend WordPress pages and Posts

1. Use Gutenberg for all Page and Post content entry
2. Create 3 Pages with 1 paragraph of Ipsum content and1 image below the content paragraph.   
   Name the Pages **Page Test 1**” to “**Page Test 3**”
3. Create a Category “Squirrel”
4. Create Tags, Black, Gray, Fox, Red
5. Create 3 Posts with 1 paragraph of Ipsum content and 1 image block below the content.   
   Name the Posts   
   “**Post Test 1**” to “**Post Test 3**”  
   Add Squirrel Category and appropriate tags to each post.  
   Select Tags based on the type of squirrel image used on the Post.

Open the Tutorial 04 Template and record following information in Parts C.1 - C.4

**Part D -** Extending WordPress with Widgets

A WordPress Widget is a small block that performs a specific function. You can add these widgets in sidebars also known as widget-ready areas on your web page. WordPress widgets were originally created to provide a simple and easy-to-use way of giving design and structure control of the WordPress theme to the user.

WordPress themes are composed of theme regions.   
These regions are areas or blocks where we can put content, such as Widget content. This means that different themes have different them regions, so how we configure widgets on a theme vary based on the theme.

In this part of the tutorial, I will demonstrate theme regions and configure several existing baseline Widgets.

After that, I will demonstrate how to install and add new WordPress widgets to WordPress sites.

Follow along as we learn how to extend our WordPress site with Widgets.

Themes used:   
(1) Sporty – to demonstrate adding and removing (deleting) themes

(2) Camer – an excellent them to demonstrate multiple theme regions

Baseline Widgets Demonstrated:  
(1) Text  
(2) Image

Web source:  
<https://wordpress.org/plugins/all-in-one-facebook-like-widget/>

Web Source:   
<https://www.wpbeginner.com/showcase/25-most-useful-wordpress-widgets-for-your-site/>  
(1) WP Call Button – add a click to call now button

Web Source:  
 <https://cms2cms.com/blog/10-wordpress-plugins-just-fun/>  
(1) Asteroid widget

Open the Tutorial 04 Template and take screen captures for Part D.

**Part E -** Review WordPress Comments and Discussion

Demonstrate configuring and moderating WordPress Page and Post comments.

1. Turn on Display comments in the Screen options for Posts
2. Turn on Display comments in the Screen options for Pages
3. Enable individual comments on Pages and Posts
4. Configure Site Comment Moderation
   1. Dashboard > Settings > Discussion
5. Access site as anonymous user and add comments to pages and posts
6. Demonstrate comment moderation
7. Turn on Comments for 1 Pages and 1 Post.
8. Configure Settings > Discussion - Turn off Email and Name so they are not required to leave a comment.
9. Access your WP site as an anonymous user and leave 1 comment the Page and Post where you enabled comments.
10. Go in as an Admin and approve the comments.

Open the Tutorial 04 Template and take screen captures for Part E.

**Part F -** WordPress Site Migration Codeanywhere 🡪 Shared Web Host

In this part of the tutorial, I will walk through installing and using the All-In-One WP Migration plugin and its extension plugins to migrate WordPress sites to other platforms.

I will start by reviewing the presentation then migrate a WordPress site from Codeanywhere to a Shared Web Host (SiteGround or Pantheeon PaaS).

1. Destroy your current Codeanywhere WordPress site and build a new one with the following attributes:
   1. Create a new Connection > Container
   2. Fill out the Connection Wizard container form
      1. Name: [your lower case initials]tutorial4ca - no spaces all lowercase
      2. Choose a WordPress stack: **I use WordPress Ubuntu 14.03**
      3. Do not enable **Always on** – This wont work with our accounts
   3. Wait and be patient while Codeanywhere deploys your container server
      1. This may take a while, so please be patient
   4. Select the link to access your web application over HTTPS protocol  
      - this loads the WordPress build script
2. Configure your WordPress Site as follows:
   1. Select English and continue
   2. Site Title: **[Your Initials] –Tutorial 04 CA**
   3. Username: enter your username – do not use the word admin 🡨 Write these down
   4. Password: enter a strong password 🡨 Wrote these down
   5. Email: use your Codeanywhere account email
   6. Search Engine Visibility – Select (check) Discourage indexing
3. Update the WordPress site to version 5
4. Update the themes &set the Twenty Twenty as the Active Theme
5. Update plugins
6. To increase the file upload size max from 8MB, edit the Codeanywhere –wp-config.php and the .htaccess files to Increase File Upload Max (See assets Codeanywhere - Increase File Upload Max file for code snippets)
7. Login to the WordPress back-end and extend the WordPress site as follows:
   1. Add 1 “red squirrel” image from the activity assets pictures folder – Only add 1 image to the WP site please.
   2. Add 1 Page
      1. Title: Red Squirrel Page
      2. 1 Paragraph of IPSUM text
      3. 1 Image – use the Red Squirrel Image
      4. Add Alt text – “A red squirrel. “
   3. Add a Post > Category “Squirrel”
   4. Add a Post > tag “Red”
   5. Add a Post
      1. Title: Squirrel Post
      2. 1 Paragraph of IPSUM Text
      3. 1 Image – use the Red Squirrel Image
      4. Add Alt text – “A red squirrel. “
      5. Assign Category of Squirrel to this Post
      6. Assign the Tag Red to this Post

We are no ready to walk through a demonstration of WordPress site migration.  
In this demonstration, we will install a Plugin named “All-In-One WP Migration” ad use it create a complete site backup of the Codeanywhere WordPress site. After that we will create a new empty WordPress site on our Shared Web Host and import the backup file and establish a copy of the Codeanywhere WP site on SiteGround.

Please follow along as we learn how to migrate WordPress websites using the All-In-One WordPress site migration process.

Open the Tutorial 04 Template and take screen captures for Part F.

**Part G -** Introducing WordPress Custom Plugins – Environment Configuration

In this part of the tutorial, I will walk through the steps to create a custom plugin environment on the File System on a shared web host SiteGround, Codeanywhere, and Pantheon PaaS platforms.   
After establishing the folder environment, I will demonstrate how to upload, activate, implement (add to a Page) and test a basic custom plugin on each platform  
G.1 Custom Plugin Intro – Presentation review  
G.2 Custom Plugins on Shared Web Host – SiteGround

G.3 Custom Plugins on Cloud Host – Codeanywhere

G.4 Custom Plugins on Pantheon 🡺 **Pantheon users install FileZilla**

Custom Plugins:

Custom Plugin 01 – my\_first\_wp\_custom\_plugin.php

Custom Plugin 02 – my\_second\_wp\_custom\_plugin.php

Disregard the Error Message:   
Publishing failed. Error message: The response is not a valid JSON response.

References on the error message:  
<https://navinrao.com/the-response-is-not-a-valid-json-response/>

Switch to Classic Editor Plugin to get around JSON Error Message.

Students – Please do the following work:  
(1) Set up the folder environments on one of your WordPress platform sites  
 (it doesn’t matter which one)

(2) Add both custom plugins and then add a Page to test each one.

Open the Tutorial 04 Template and take screen captures for Part G.

**Part H – PHP – Classes & Objects, Prewritten Functions**

**Testing PHP Programs using PHP Emulation Websites:**

* Online PHP test sites:
  + <http://phptester.net>
  + <http://sandbox.onlinephpfunctions.com/>
* How you test your script depends on which test site you use.
* **Each PHP emulation test site works slightly different**.

Please review the Module 04 presentations before attempting to answer the PHP questions.  
  
Please review and use the example PHP code located in the Module 04 PHP Examples section.   
Go to the Tutorial 04 Template file and answer the PHP questions for Part I.

**Part I – Questions or problems with this tutorial?**

**Please review your template file for errors and missing answers and screen captures.  
  
If you have questions or issues about this tutorial please contact the instructor immediately.**

**To get help, either submit an IRT, or make an appointment with the DePaul tutor or connect to BlueStar and make an appointment for an office hours appointment for help.  
  
If you find errors with this tutorial, please fill out a BRECT form and submit it to the instructor ASAP for Extra Credit points.**

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Submit your renamed and completed tutorial template to D2L dropbox for the current weeks tutorial.

If you prefer not to navigate by hand to the D2L dropbox, take advantage of the dropbox link in the current D2L Module Tutorial section. The D2L link will take you to the correct tutorial dropbox location.