



Building WordPress plugins

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DevriX

1. WordPress Engineer @ Placester
2. DevirX CTO
3. @no_fear_inc
4. Java/PHP/Python
background



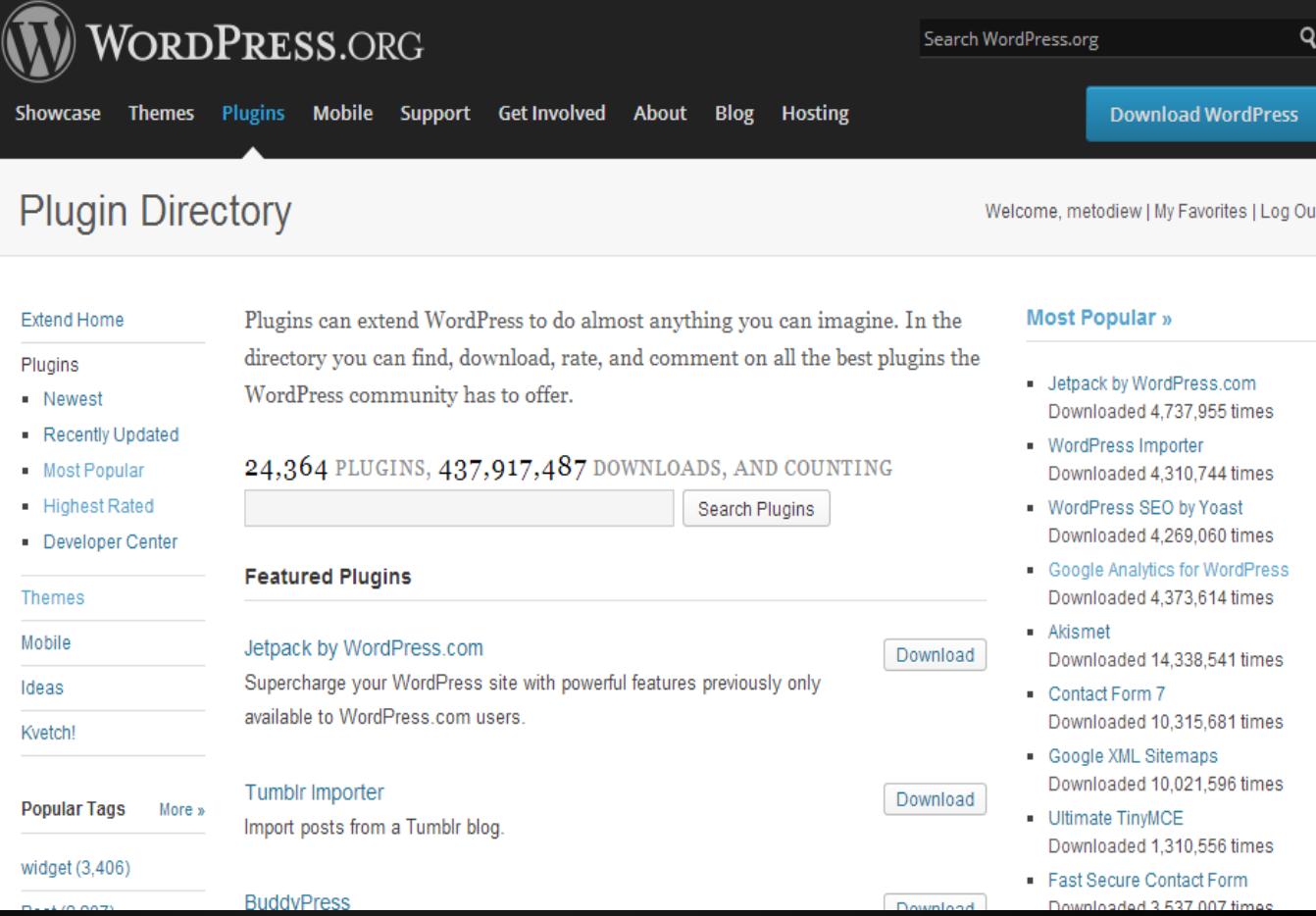
1. What is a WordPress plugin?
2. Prerequisites
3. Start it Smart
4. Conventions

What is WordPress plugin?

1. A separate module
2. Hooked to the WordPress core
3. Providing extra functionality

A WordPress Plugin is a program, or a set of one or more functions, written in the PHP scripting language, that adds a specific set of features or services to the WordPress weblog, which can be seamlessly integrated with the weblog using access points and methods provided by the WordPress Plugin Application Program Interface (API).

1. WPORG repository



The screenshot shows the WordPress.org Plugin Directory. At the top, there is a navigation bar with links to Showcase, Themes, Plugins (which is the active tab), Mobile, Support, Get Involved, About, Blog, and Hosting. To the right of the navigation is a search bar with the placeholder "Search WordPress.org" and a magnifying glass icon. Below the navigation is a large button labeled "Download WordPress". The main content area has a header "Plugin Directory" and a sub-header "Welcome, metodiew | My Favorites | Log Out". On the left, there is a sidebar with links to Extend Home, Plugins (Newest, Recently Updated, Most Popular, Highest Rated, Developer Center), Themes, Mobile, Ideas, Kvetch!, Popular Tags (More), widget (3,406), and Post (2,007). The main content area features a text block about plugins, a statistic "24,364 PLUGINS, 437,917,487 DOWNLOADS, AND COUNTING", a search bar, and a "Search Plugins" button. Below this is a "Featured Plugins" section with entries for "Jetpack by WordPress.com" (Download button) and "Tumblr Importer" (Download button). To the right, there is a "Most Popular »" section listing plugins like Jetpack, WordPress Importer, and Akismet, each with a download count.

WORDPRESS.ORG

Showcase Themes Plugins Mobile Support Get Involved About Blog Hosting

Search WordPress.org

Download WordPress

Plugin Directory

Welcome, metodiew | My Favorites | Log Out

Extend Home

Plugins

- Newest
- Recently Updated
- Most Popular
- Highest Rated
- Developer Center

Themes

Mobile

Ideas

Kvetch!

Popular Tags More »

widget (3,406)

Post (2,007)

Plugins can extend WordPress to do almost anything you can imagine. In the directory you can find, download, rate, and comment on all the best plugins the WordPress community has to offer.

24,364 PLUGINS, 437,917,487 DOWNLOADS, AND COUNTING

Search Plugins

Featured Plugins

Jetpack by WordPress.com

Supercharge your WordPress site with powerful features previously only available to WordPress.com users.

Tumblr Importer

Import posts from a Tumblr blog.

BuddyPress

Most Popular »

- Jetpack by WordPress.com
Downloaded 4,737,955 times
- WordPress Importer
Downloaded 4,310,744 times
- WordPress SEO by Yoast
Downloaded 4,269,060 times
- Google Analytics for WordPress
Downloaded 4,373,614 times
- Akismet
Downloaded 14,338,541 times
- Contact Form 7
Downloaded 10,315,681 times
- Google XML Sitemaps
Downloaded 10,021,596 times
- Ultimate TinyMCE
Downloaded 1,310,556 times
- Fast Secure Contact Form
Downloaded 3,537,007 times

WordPress APIs and components

1. [Shortcode API](#)
2. [Widgets API](#)
3. [Menus](#)
4. [Plugin API](#) (hooks)

1. HTTP API
2. Options API
3. Settings API
4. Transients API
5. Rewrite API

1. Custom Post Types
2. Custom Taxonomies
3. Custom Fields
4. Meta boxes
5. Page templates

1. What is I18n?

- ◆ I18n is a abbreviation for *internationalization*, or the process of making an application ready for translation.

2. load_plugin_textdomain

3. __()

4. _e()

5. _x, _n ...

1. WP_Query
2. get_posts
3. \$wpdb
4. pre_get_posts hook
5. posts_where hook

1. wp_enqueue_script
2. wp_enqueue_style
3. admin_enqueue_scripts hook
4. wp_enqueue_scripts hook

** A safe way to add/enqueue a CSS/JS files
to the WordPress generated page*

[Showcase](#) [Themes](#) [Plugins](#) [Mobile](#) [Support](#) [Get Involved](#) [About](#) [Blog](#) [Hosting](#)A search bar with the placeholder text 'Search WordPress.org'.[Download WordPress](#)

Codex

[Codex tools](#) [Log in](#)

WordPress Coding Standards

[Languages](#): English • 日本語 • Português do Brasil • 中文(简体) • [\(Add your language\)](#)

Some parts of the WordPress code structure for PHP markup are inconsistent in their style. WordPress is working to gradually improve this by helping users maintain a consistent style so the code can become clean and easy to read at a glance.

Keep the following points in mind when writing code for WordPress, whether for core programming code, [Plugins](#), or [WordPress Themes](#). The guidelines are similar to [Pear standards](#) in many ways, but differ in some key respects.

See also [this post](#) on the [wp-hackers](#) list. There is also a page on proposed [Inline Documentation](#) standards.

[Home Page](#)[WordPress Lessons](#)[Getting Started](#)[Working with
WordPress](#)[Design and Layout](#)[Advanced Topics](#)[Troubleshooting](#)[Developer Docs](#)[About WordPress](#)

http://codex.wordpress.org/WordPress_Coding_Standards

1. Jetpack
2. WordPress SEO by Yoast
3. Contact form 7
4. W3 Total Cache
5. WooCommerce
6. Yet Another Related Posts Plugin

1. [Gravity Forms](#)
2. [WPMU DEV](#)
3. [Toolset](#)
4. [BackupBuddy](#)
5. [UberMenu](#)
6. ...and more

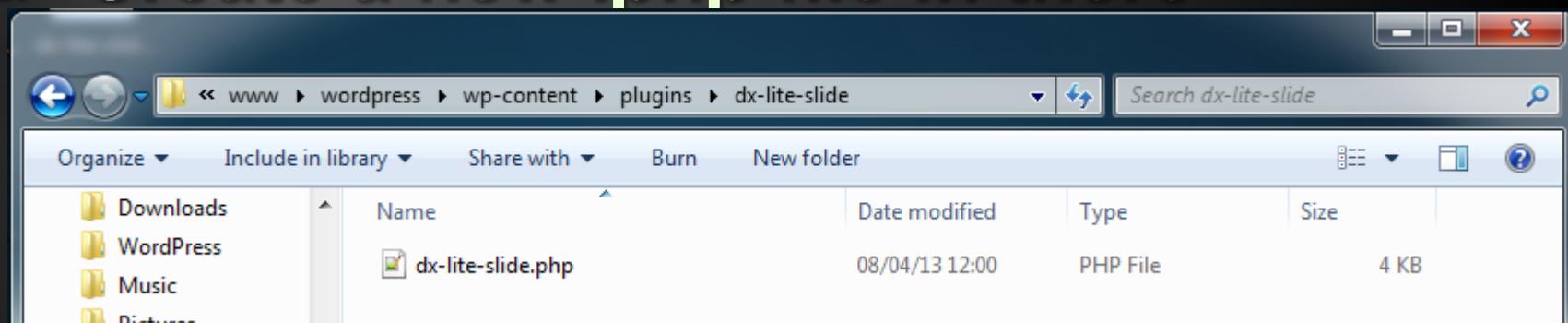
How to create a plugin?

How to create a plugin?

1. What my plugin will do?
2. Make a plan
3. Follow plugin development recommendations.
4. Let's do some coding

Let's create a slider plugin

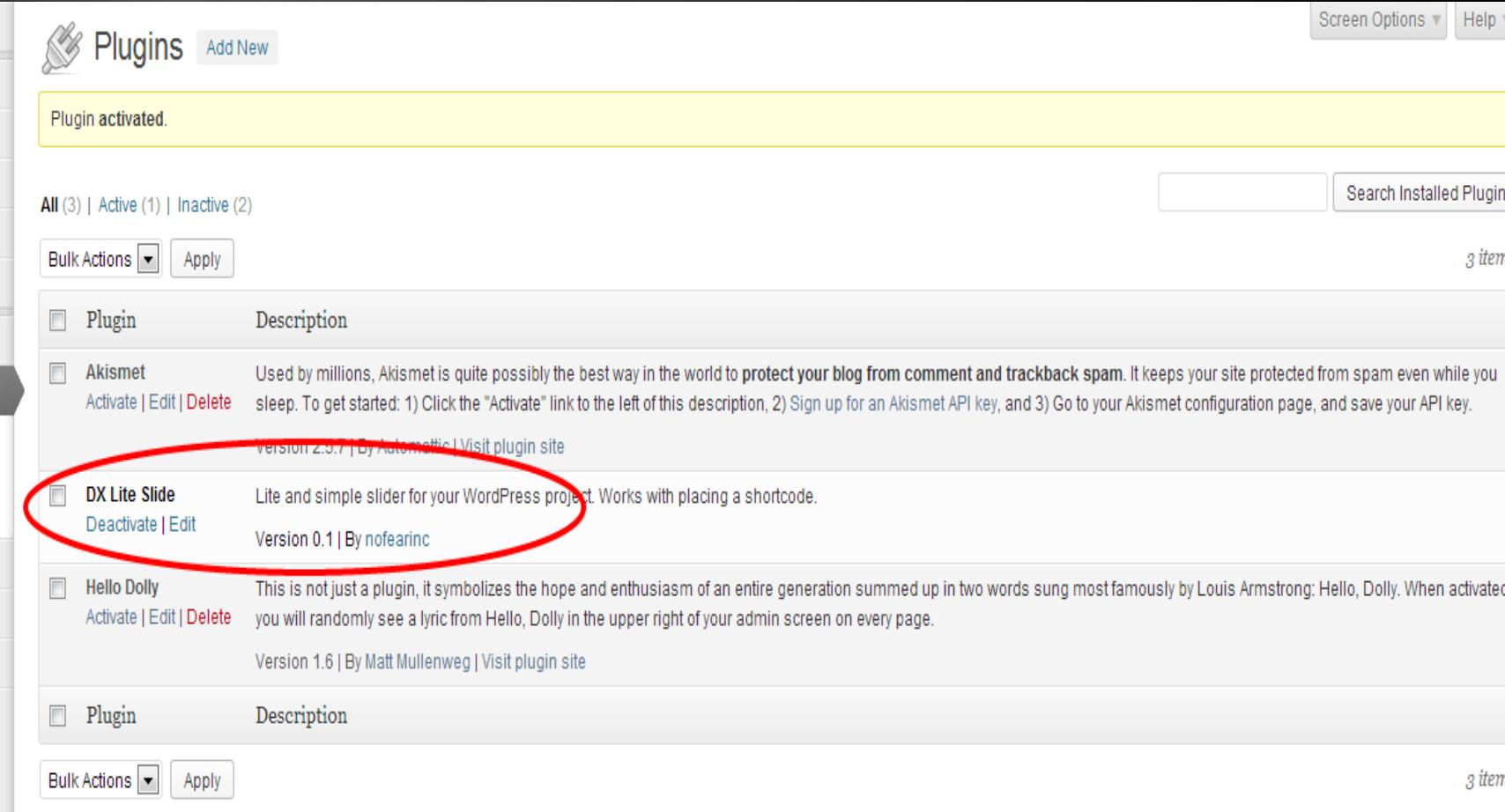
1. Create a folder in wp-content/plugins
2. Create a new .php file in there



3. Add this on the top of the file:

```
dx-lite-slide.php
1 <?php
2 /**
3  * Plugin Name: DX Lite Slide
4  * Description: Lite and simple slider for your WordPress project. Works with placing a shortcode.
5  * Author: DevriX
6  * Author URI: http://devrix.com/
7  * Version: 0.1
8  * License: GPLv2 or later
9  *
10 */
11 */
```

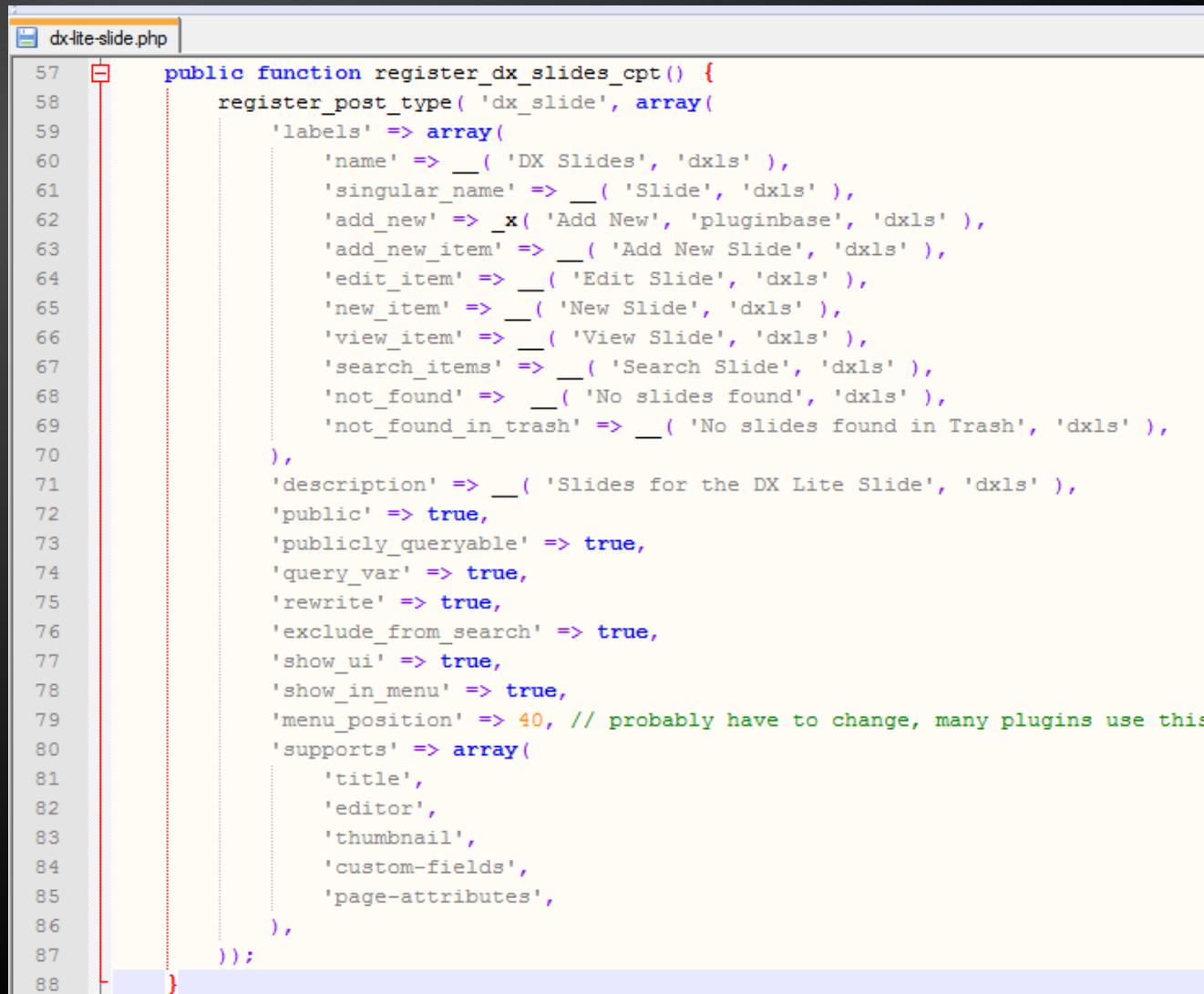
1. Go to Admin Dashboard and activate the plugin



The screenshot shows the WordPress Admin Dashboard with the 'Plugins' page selected. A success message 'Plugin activated.' is displayed. The 'DX Lite Slide' plugin is listed and circled in red, indicating it is the target for activation. The 'Akismet' plugin is also visible above it.

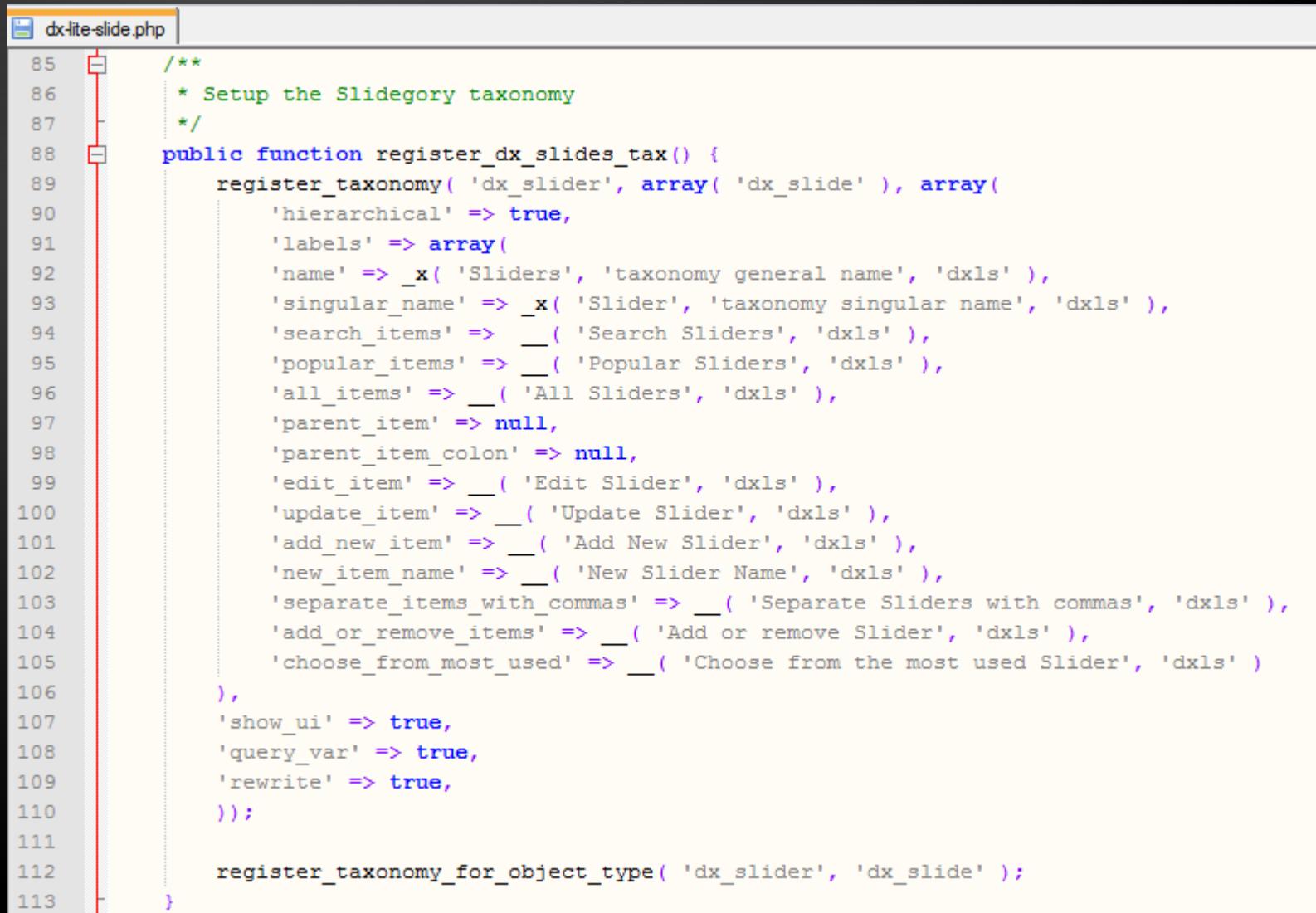
Plugin	Description
Akismet	Used by millions, Akismet is quite possibly the best way in the world to protect your blog from comment and trackback spam. It keeps your site protected from spam even while you sleep. To get started: 1) Click the "Activate" link to the left of this description, 2) Sign up for an Akismet API key, and 3) Go to your Akismet configuration page, and save your API key. Version 2.5.7 By Automattic Visit plugin site
DX Lite Slide	Lite and simple slider for your WordPress project. Works with placing a shortcode. Version 0.1 By nofearinc
Hello Dolly	This is not just a plugin, it symbolizes the hope and enthusiasm of an entire generation summed up in two words sung most famously by Louis Armstrong: Hello, Dolly. When activated you will randomly see a lyric from Hello, Dolly in the upper right of your admin screen on every page. Version 1.6 By Matt Mullenweg Visit plugin site

1. Create a slide custom post type



```
57     public function register_dx_slides_cpt() {
58         register_post_type( 'dx_slide', array(
59             'labels' => array(
60                 'name' => __( 'DX Slides', 'dxls' ),
61                 'singular_name' => __( 'Slide', 'dxls' ),
62                 'add_new' => __x( 'Add New', 'pluginbase', 'dxls' ),
63                 'add_new_item' => __( 'Add New Slide', 'dxls' ),
64                 'edit_item' => __( 'Edit Slide', 'dxls' ),
65                 'new_item' => __( 'New Slide', 'dxls' ),
66                 'view_item' => __( 'View Slide', 'dxls' ),
67                 'search_items' => __( 'Search Slide', 'dxls' ),
68                 'not_found' => __( 'No slides found', 'dxls' ),
69                 'not_found_in_trash' => __( 'No slides found in Trash', 'dxls' ),
70             ),
71             'description' => __( 'Slides for the DX Lite Slide', 'dxls' ),
72             'public' => true,
73             'publicly_queryable' => true,
74             'query_var' => true,
75             'rewrite' => true,
76             'exclude_from_search' => true,
77             'show_ui' => true,
78             'show_in_menu' => true,
79             'menu_position' => 40, // probably have to change, many plugins use this
80             'supports' => array(
81                 'title',
82                 'editor',
83                 'thumbnail',
84                 'custom-fields',
85                 'page-attributes',
86             ),
87         )));
88     }
```

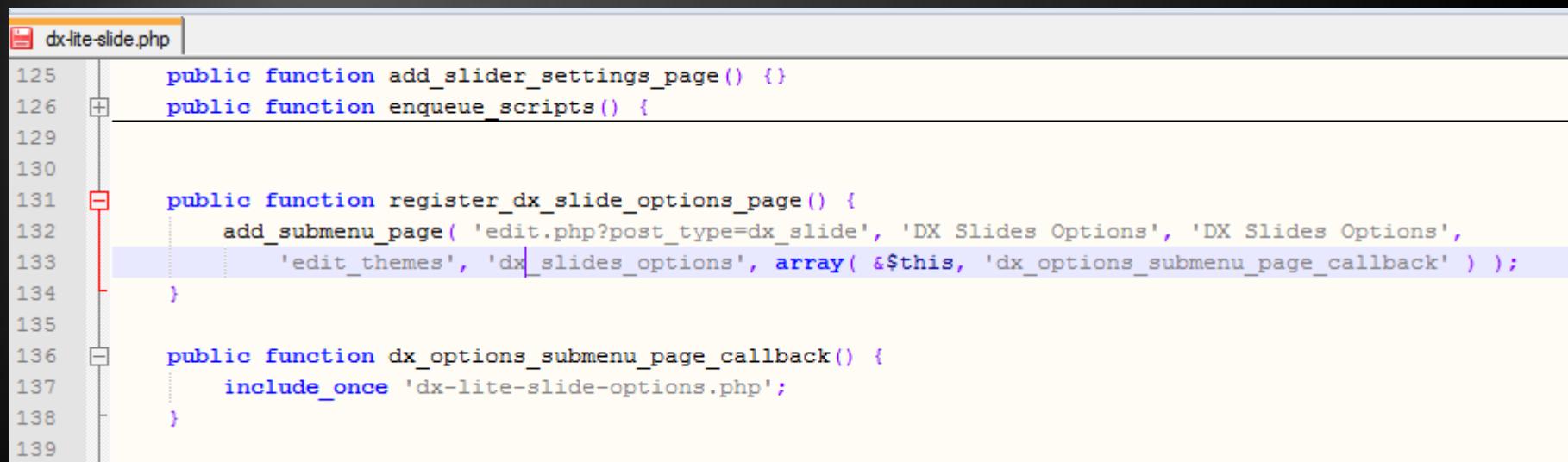
1. Slider taxonomy



```
dx-lite-slide.php
85  /**
86   * Setup the Slidectomy taxonomy
87   */
88  public function register_dx_slides_tax() {
89      register_taxonomy( 'dx_slider', array( 'dx_slide' ), array(
90          'hierarchical' => true,
91          'labels' => array(
92              'name' => __( 'Sliders', 'taxonomy general name', 'dxls' ),
93              'singular_name' => __( 'Slider', 'taxonomy singular name', 'dxls' ),
94              'search_items' => __( 'Search Sliders', 'dxls' ),
95              'popular_items' => __( 'Popular Sliders', 'dxls' ),
96              'all_items' => __( 'All Sliders', 'dxls' ),
97              'parent_item' => null,
98              'parent_item_colon' => null,
99              'edit_item' => __( 'Edit Slider', 'dxls' ),
100             'update_item' => __( 'Update Slider', 'dxls' ),
101             'add_new_item' => __( 'Add New Slider', 'dxls' ),
102             'new_item_name' => __( 'New Slider Name', 'dxls' ),
103             'separate_items_with_commas' => __( 'Separate Sliders with commas', 'dxls' ),
104             'add_or_remove_items' => __( 'Add or remove Slider', 'dxls' ),
105             'choose_from_most_used' => __( 'Choose from the most used Slider', 'dxls' )
106         ),
107         'show_ui' => true,
108         'query_var' => true,
109         'rewrite' => true,
110     ));
111
112     register_taxonomy_for_object_type( 'dx_slider', 'dx_slide' );
113 }
```

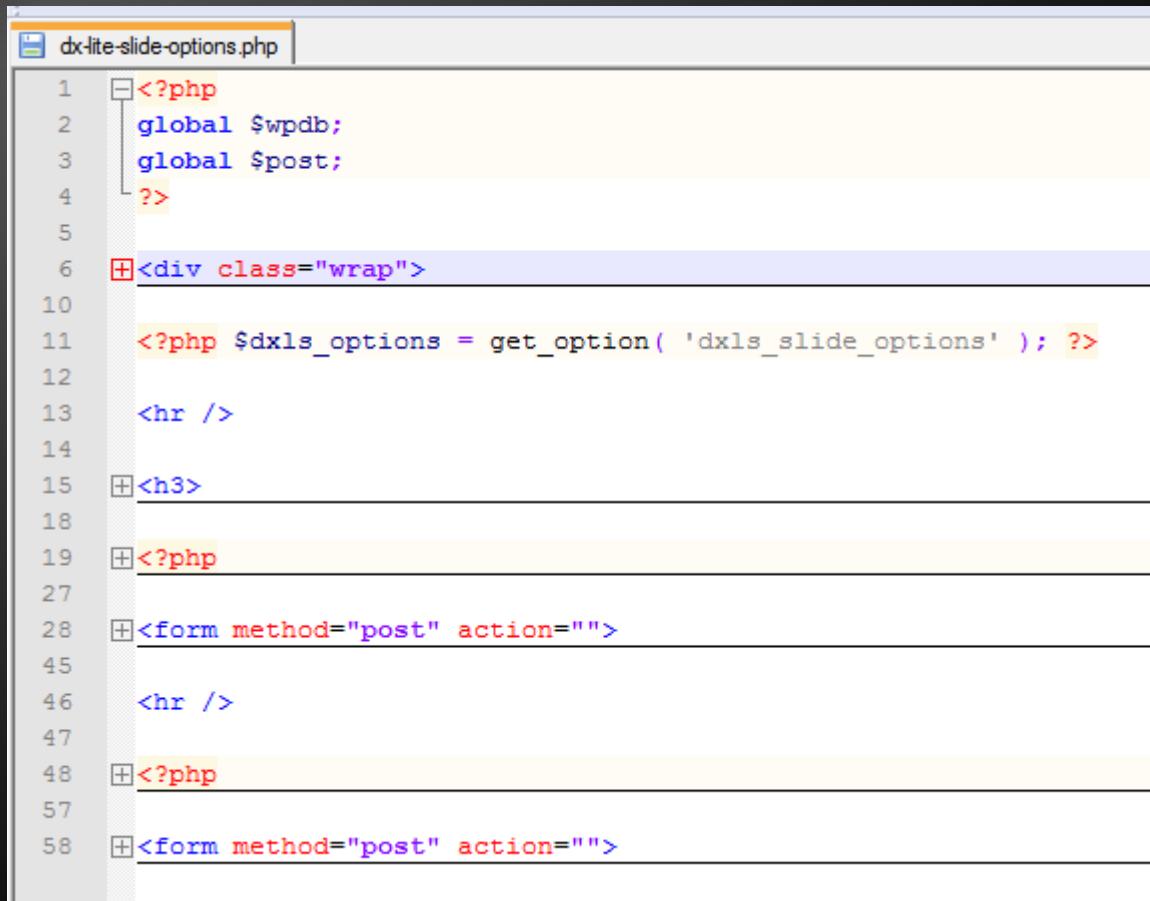
1. Add Options Page

- ◆ Create *dx-lite-slide-options.php* file



```
125     public function add_slider_settings_page() {}
126     public function enqueue_scripts() {
129
130
131     public function register_dx_slide_options_page() {
132         add_submenu_page( 'edit.php?post_type=dx_slide', 'DX Slides Options', 'DX Slides Options',
133             'edit_themes', 'dx_slides_options', array( &$this, 'dx_options_submenu_page_callback' ) );
134     }
135
136     public function dx_options_submenu_page_callback() {
137         include_once 'dx-lite-slide-options.php';
138     }
139 }
```

1. dx-lite-slide-options.php



```
dx-lite-slide-options.php
1 <?php
2 global $wpdb;
3 global $post;
4 ?>
5
6 <div class="wrap">
10
11 <?php $dxls_options = get_option( 'dxls_slide_options' ); ?>
12
13 <hr />
14
15 <h3>
18
19 <?php
27
28 <form method="post" action="">
45
46 <hr />
47
48 <?php
57
58 <form method="post" action="">
```

DX Lite Slide Options Page

Lite Slide Options Page

Enable/Disable Slider

Enabled
 Disabled

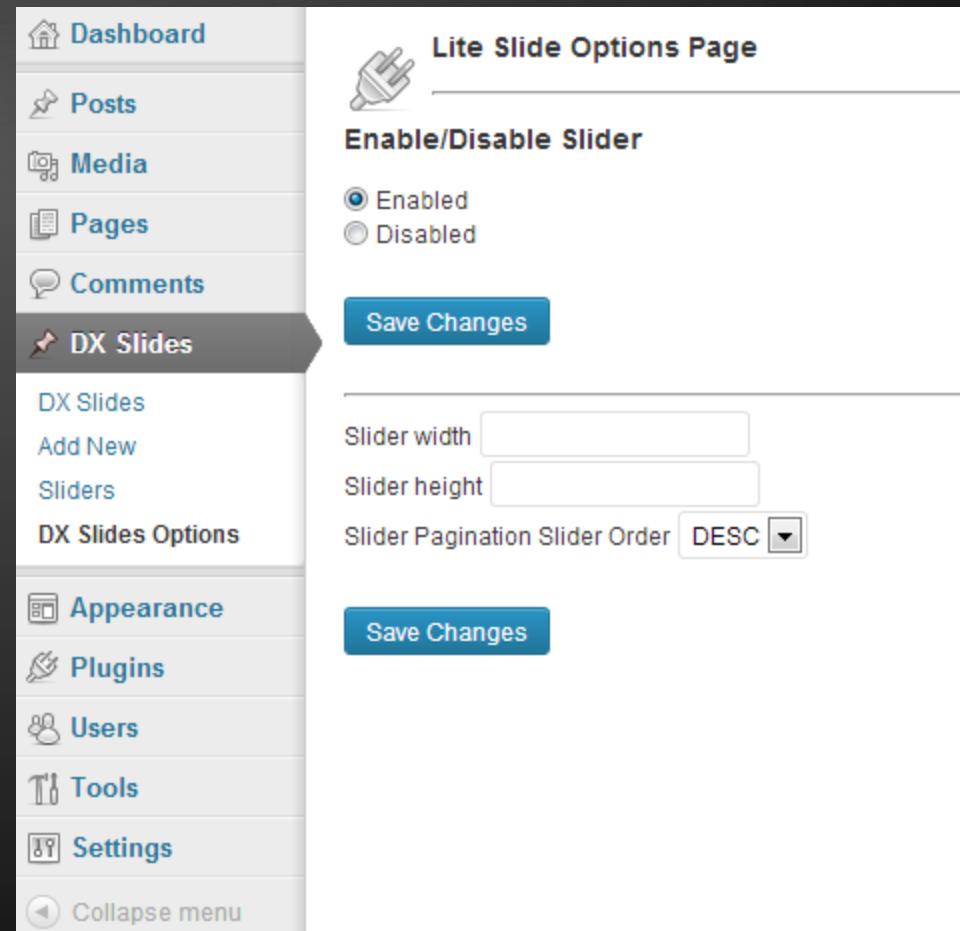
Save Changes

Slider width

Slider height

Slider Pagination Slider Order DESC ▾

Save Changes



Dashboard

Posts

Media

Pages

Comments

DX Slides

DX Slides

Add New

Sliders

DX Slides Options

Appearance

Plugins

Users

Tools

Settings

Collapse menu

1. Add some data

Dashboard Posts Media Pages Comments **DX Slides** Add New Screen Options

All (5) | Published (5) Search Slide

Bulk Actions Apply Show all dates Filter 5 items

	Title	Date
<input type="checkbox"/>	Slide 05	2013/04/08 Published
<input type="checkbox"/>	Slide 04	2013/04/08 Published
<input type="checkbox"/>	Slide 03	2013/04/08 Published
<input type="checkbox"/>	Slide 02	2013/04/08 Published
<input type="checkbox"/>	Slide 01	2013/04/08 Published
<input type="checkbox"/>	Title	Date

Bulk Actions Apply 5 items

1. Add shortcode

```
display-slideshow.php
1  -<?php
2      global $wpdb;
3      global $post;
4
5      $dxls_options = get_option('dxls_options');
6      $dxls_slide_args = array(
7          'post_type' => 'dx_slide',
8          'post_status' => 'publish',
9          'posts_per_page' => -1,
10         'orderby' => 'date',
11         'order' => 'DESC'
12     );
13     ob_start();
14     if ( $dxls_options['dxls_slide_status'] == 'enabled' ) :
15         $dxls_slides_list = new WP_Query( $dxls_slide_args );
16         if ( $dxls_slides_list->have_posts() ) :
17             echo '<div id="dx-slideshow">';
18             while ( $dxls_slides_list->have_posts() ) : $dxls_slides_list->the_post();
19                 $dxls_img_url = wp_get_attachment_url( get_post_thumbnail_id( $post->ID ) );
20                 ?>
21                 <div>
22                     
23                 </div>
24             <?php
25             endwhile;
26             echo '</div>';
27         endif;
28         wp_reset_query();
29     endif;
30
31     return ob_get_clean();
32 ?>
```

1. Add some CSS/JS

```
138
139     public function dx_enqueue_style_css() {
140         wp_enqueue_style( 'style.css', plugins_url( '/styles/style.css' , __FILE__ ) );
141         wp_enqueue_style( 'style.css' );
142     }
143
144     public function dx_enqueue_slider_script() {
145         wp_enqueue_script( 'dx_slide', plugins_url( '/js/dx_slide.js', __FILE__ ), array( 'jquery' ) );
146     }
147
148 }
```

dx-lite-slide.php style.css

```
1 #dx-slideshow {
2     position: relative;
3     width: 100%;
4     max-width: 960px;
5     height: 350px;
6     margin: 50px auto;
7     padding: 10px;
8     box-shadow: 0 0 20px rgba(0, 0, 0, 0.4);
9 }
10
11 #dx-slideshow>div {
12     position: absolute;
13     top: 10px;
14     left: 10px;
15     right: 10px;
16     bottom: 10px;
17 }
```

dx-lite-slide.php style.css dx-slide.js

```
1 jQuery(document).ready(function($) {
2     $("#dx-slideshow > div:gt(0)").hide();
3
4     setInterval(function() {
5         $('#dx-slideshow > div:first')
6             .fadeOut(1000)
7             .next()
8             .fadeIn(1000)
9             .end()
10            .appendTo('#dx-slideshow');
11     }, 4000);
12 }) ;
```

1. Create a Page and add Slider shortcode

[dx_display_slideshow]

The screenshot shows the WordPress 'Edit Page' screen. The left sidebar is visible with the 'Pages' menu item selected. The main content area shows a page titled 'Slider Page Full Width'. The content editor contains the shortcode `[dx_display_slideshow]`. The right sidebar contains the 'Publish' metabox, showing the status as 'Published', visibility as 'Public', and a publish date of 'Apr 10, 2013 @ 9:52'. The 'Page Attributes' metabox shows the template as 'Full-width Page Template, No Sidebar'.

Dashboard Posts Media Pages All Pages Add New Comments DX Slides Appearance Plugins Users Tools Settings Collapse menu

Edit Page Add New

Slider Page Full Width

Permalink: http://plugins.dxdemos.eu/lite-slide/?page_id=5 [Change Permalinks](#) [View Page](#)

Add Media Visual Text

[dx_display_slideshow]

Publish

Status: **Published** [Edit](#)

Visibility: **Public** [Edit](#)

Published on: **Apr 10, 2013 @ 9:52** [Edit](#)

[Move to Trash](#) [Update](#)

Page Attributes

Parent (no parent)

Template Full-width Page Template, No Sidebar

Lite Slide

Just another WordPress site

[HOME](#)[SAMPLE PAGE](#)[SLIDER PAGE FULL WIDTH](#)[SLIDER PAGE WITH SIDEBAR](#)

Slider Page Full Width



Demo

Congratulations!

You have built your first WordPress plugin.

1. It is customary to follow the standard header with information about licensing for the Plugin. Most Plugins use the GPL2 license used by WordPress or a license compatible with the GPL2. To indicate a GPL2 license, include the following lines in your Plugin

```
<?php
/* Copyright YEAR PLUGIN_AUTHOR_NAME (email : PLUGIN AUTHOR EMAIL)

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License, version 2, as
published by the Free Software Foundation.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
*/
?>
```

1. register_activation_hook
2. register_deactivation_hook
3. init
4. admin_init
5. admin_menu
6. add_meta_boxes

1. **WP_DEBUG, SAVEQUERIES, SCRIPT_DEBUG, WP_DEBUG_LOG**
2. http://codex.wordpress.org/Debugging_in_WordPress
3. <http://wordpress.org/extend/plugins/debug-bar/>

1. Find a unique plugin name
2. Setup a plugin prefix (it should be related with your brand)
3. Use proper constants and functions to detect paths to plugin files
4. Create activation and deactivation functions
5. Create an uninstall script

Submit on WordPress.org

- ◆ Prepare a `readme.txt` based on [the readme standards](#)
- ◆ The `readme` would define the plugin page description
- ◆ [Apply](#) for a plugin hosting on WordPress.org
- ◆ After the approval, you'll be able to push to [the Subversion repository](#).

Building WordPress plugins

Questions?

Mario Peshev

- ◆ <http://devwp.eu>

<http://academy.telerik.com>

Free Trainings @ Telerik Academy

- ◆ Telerik Software Academy

- ◆ academy.telerik.com



- ◆ Telerik Academy @ Facebook

- ◆ facebook.com/TelerikAcademy

- ◆ Telerik Software Academy Forums

- ◆ forums.academy.telerik.com

