



Modernize WordPress

for a multi-developer, multi-environment workflow

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WordPress and Me



- ◆ Since Version 1.5
2005? (*wow...*)
- ◆ Freelance business &
nonprofits

WordPress and Me



- ◆ Blog posts = profit
- ◆ Higher Ed since 2012

WordPress and You

- ◆ Who benefits from this session?
 - Starting a new WordPress project: best practices
 - Restructuring an existing WordPress project
- ◆ What do you gain?
 - Source Control Management with versioning and releases
 - Multi-Developer, Multi-Environment workflow
 - Software package management
 - Dependable deployments

WordPress and Higher Ed Communicators



- ◆ SEO-friendly
 - Featured Images
 - SEO prompts and Excerpts
- ◆ Intuitive news writing experience
 - Text, Image and Gallery blocks
- ◆ No-code design components

WordPress and Higher Ed Devs



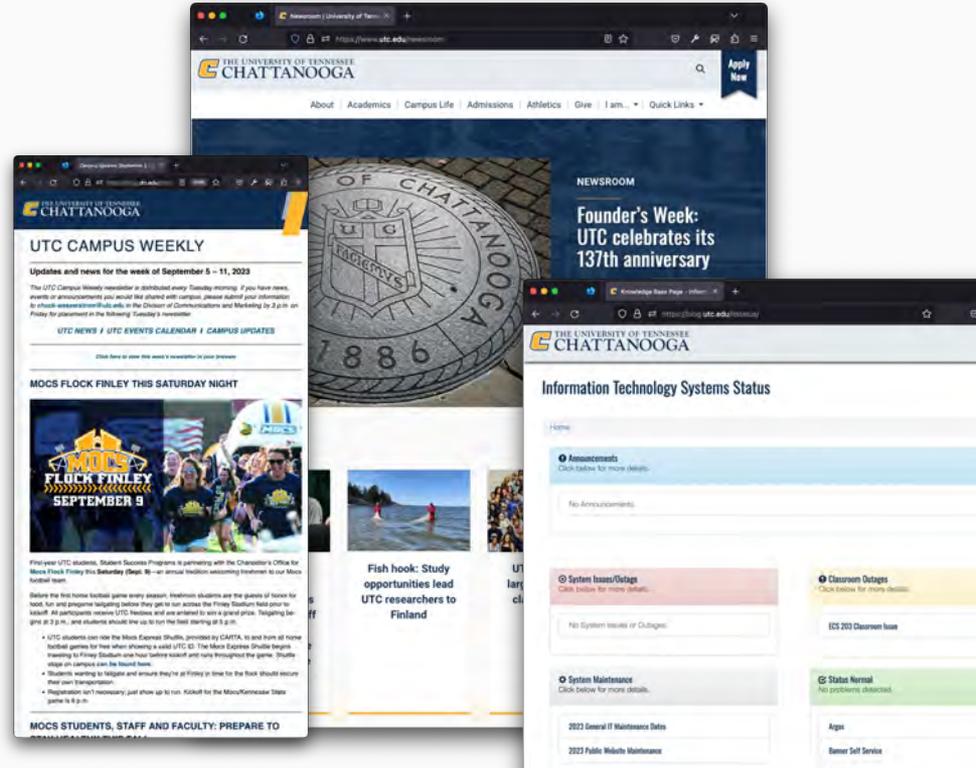
- ◆ Low point of entry for IT/Devs
 - “Famous 5-minute Setup”
 - Massive ecosystem of themes and plugins
- ◆ High probability of mistakes
 - Any account with admin role can activate and configure plugins and themes
 - No project history for custom development
 - No version history for dependencies

WordPress and You

- ◆ What will you get from this session?
 - NOT
 - ◆ the very best practices
 - Homegrown project, Open Source
 - ◆ mostly free (*as in beer*)
 - Example of a simple WordPress site or network
 - ◆ deployment to on-premises LAMP or LEMP

WordPress @UTChattanooga

- ◆ News stories and features
 - utc.edu/newsroom
- ◆ Blogs
 - blog.utc.edu/cuip
 - blog.utc.edu/campus-weekly
- ◆ IT Systems Status
 - utc.edu/status





**MOCS
DON'T
HAZE**

UTC to host workshops and discussions during National Hazing Prevention Week

Dashboard / UTC News - WordPr...
https://blog.utcc.edu/news/2023/09/utc-to-host-workshops-and-discussions-during-national-hazing-preventio...
THE UNIVERSITY OF TENNESSEE
CHATTANOOGA
Apply Now

UTC News | Academics | Achievement | Athletics | Engagement | Events | Students | Video | I am... | Quick Links

UTC to host workshops and discussions during National Hazing Prevention Week

Home > Students > UTC to host workshops and discussions during National Hazing Prevention Week

CATEGORIES
Select a category

RECENT POSTS

- UTC Theatre Co. to open its season with "Blithe Spirit"
- Immigrants' painful journey the subject of documentary to be shown at UTC.
- Making the cut: UTC grad owns and operates Chattanooga tree service
- Students first: "Feeling of community" motivates UTC

September 25, 2023
Shawn Ryan

WordPress @UTChattanooga

- ◆ **Local Development**
 - Lando.dev or Ddev.com or MAMP or IDE
- ◆ **Source Control**
 - Github.com or Bitbucket or Gitlab or Git
- ◆ **Software Package Management**
 - Composer + Roots.io / Bedrock
- ◆ **Deployment**
 - Laravel Envoy or Travis or Github Actions

```

1  <?php
2  /**
3   * Configuration overrides for WP_ENV ≡ 'local'
4   */
5
6   use Roots\WPConfig\Config;
7   use function Env\env;
8   Gilligan, 1/12/22, 10:31 • UTCB: Add local environment configuration for debugging
9
10  Config::define('SAVEQUERIES', true); # for Lando local environment
11  Config::define('WP_DEBUG', true); DB_NAME='wordpress'
12  Config::define('WP_DEBUG_DISPLAY', true); DB_USER='wordpress'
13  Config::define('WP_DEBUG_LOG', env( name: 'WP_DEBUG_LOG') ?? true); DB_PASSWORD='wordpress'
14  Config::define('WP_DISABLE_FATAL_ERROR_HANDLER', true);
15  Config::define('SCRIPT_DEBUG', true); # Optionally, you can use a data source name (DSN)
16  Config::define('DISALLOW_INDEXING', true); # When using a DSN, you can remove the DB_NAME, DB_USER, DB_PASSWORD, and DB_HOST variables
17  # DATABASE_URL='mysql://database_user:database_password@database_host:database_port/database_name'
18
19  ini_set( option: 'display_errors', value: '1'); # Optional database variables
20
21  // Enable plugin and theme updates and installation from the admin # DB_HOST='database'
22  Config::define('DISALLOW_FILE_MODS', false); DB_PREFIX='wp_'
23
24  // Enable Jetpack Offline Mode # Multisite variables
25  Config::define( 'JETPACK_DEV_DEBUG', true ); DOMAIN_CURRENT_SITE="utcblogsmltsite.lndo.site"
26
27  // Enable database repair via wp-admin/maint/repair.php # local, localnocode, development, staging, or production
28  //Config::define('WP_ALLOW_REPAIR', true); WP_ENV='local'
29  WP_HOME="https://${DOMAIN_CURRENT_SITE}"
30  WP_SITEURL="${WP_HOME}"
31
32  # Specify optional debug.log path
33  WP_DEBUG_LOG= '/app/web/app/debug.log'
34
35
36
  
```

Local Development

- ◆ Lando.dev
 - Recipes for many common software apps and services
 - Networked local environment in Docker Desktop
 - ◆ App Server
 - ◆ Database Server
 - ◆ Proxy Server
 - Command Line scripts, SSH key forwarding
 - Utilities: db-export/import, rebuild, wp-cli, ssh, etc.

The screenshot shows the Docker Desktop interface. At the top, there's a search bar and navigation icons. The main area displays 'Containers' with a table of running containers. On the left, a sidebar shows navigation options like 'Containers', 'Images', 'Volumes', etc. At the bottom, a terminal window shows the output of a command, including a stylized ASCII art logo and vital information for the 'utcpblogsmultisite' container.

Containers Table:

Name	Image	Status	CPU (%)	Port(s)	Last	Actions
utcpblogsmultisite		Running (4/4)	0.1%		6 hc	
utcpblogsmultisite_appserver_1	devwithlan	Running	0.01%		6 hc	
utcpblogsmultisite_database_1	bitnami/mysql	Running	0.08%		6 hc	
utcpblogsmultisite_mailhog_1	mailhog/mailhog	Running	0%	52177.80	6 hc	
utcpblogsmultisite_theme_1	nodes14	Running	0.01%		6 hc	
utctiny		Running (2/2)	0.09%		6 hc	
utctiny_appserver_1	devwithlan	Running	0.01%		6 hc	
utctiny_database_1	bitnami/mysql	Running	0.08%	57064.3306	6 hc	
utccloud		Running (2/2)	0.09%		5 hc	
utccloud_appserver_1	devwithlan	Running	0%	58892.443	5 hc	
utccloud_database_1	bitnami/mysql	Running	0.09%	58891.3306	5 hc	
utccloudnext		Running (2/2)	0.08%		4 hc	
utccloudnext_appserver_1	devwithlan	Running	0.01%	60944.343	4 hc	
utccloudnext_database_1	bitnami/mysql	Running	0.07%	60943.3306	4 hc	

Terminal Output:

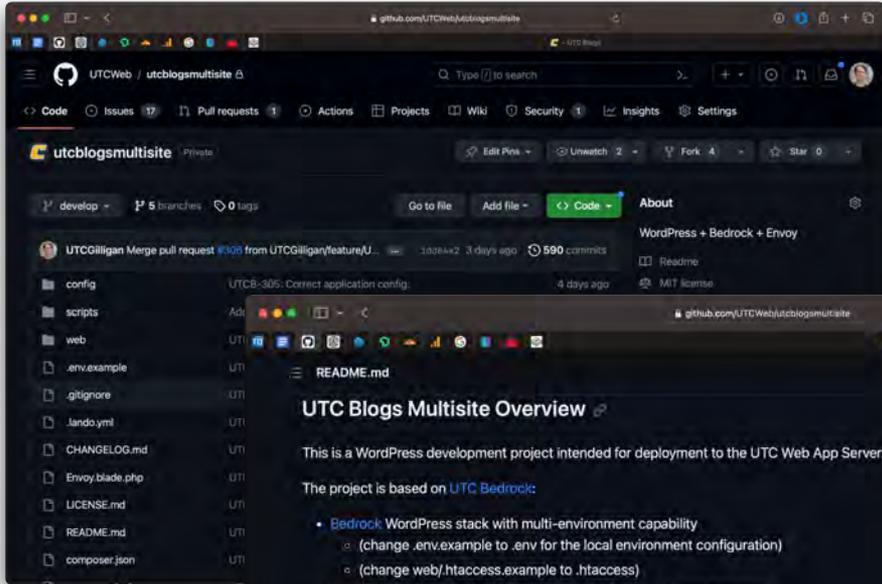
```

NAME      utcpblogsmultisite
LOCATION   /Users/jty711/Sites/UTC/utcpblogsmultisite
SERVICES  appserver, database, theme, mailhog
URLS
✓ APPSERVER URLs
✓ https://localhost:57179 [302]
✓ http://localhost:57180 [302]
✓ http://utcpblogsmultisite.lndo.site/ [301]
✓ https://utcpblogsmultisite.lndo.site/ [301]
✓ MAILHOG URLs
✓ http://localhost:57177 [200]
✓ http://mailhog.lndo.site/ [200]
  
```

Structure Bookmarks

Source Control

- ◆ Github.com/UTCWeb
 - README, Wiki articles for onboarding devs
 - Issue queue for features and bugs
 - Code Review for pull requests
 - Private and Public repositories



UTC Blogs Multisite Overview

This is a WordPress development project intended for deployment to the UTC Web App Server.

The project is based on [UTC Bedrock](#):

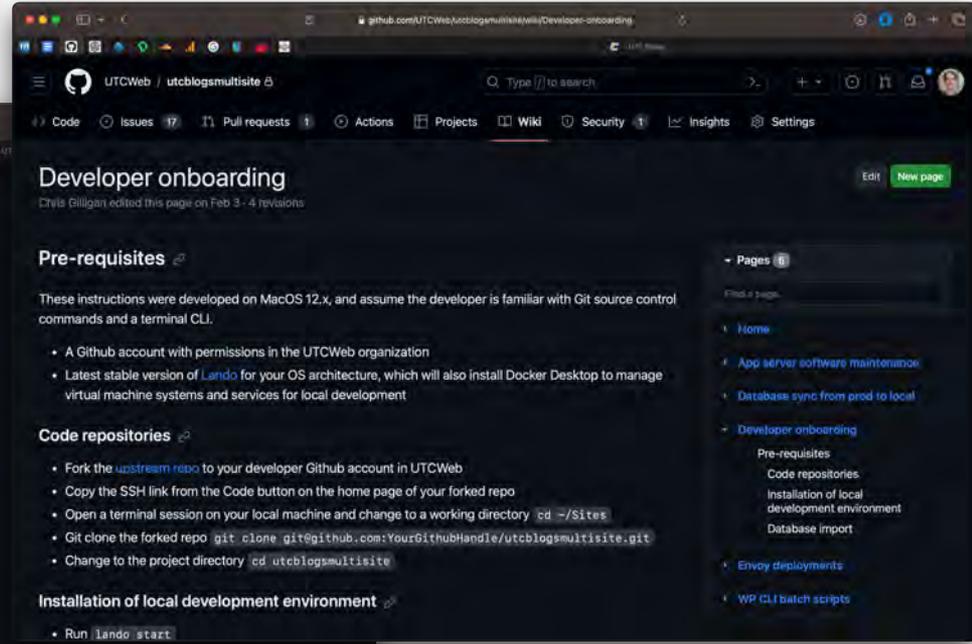
- [Bedrock](#) WordPress stack with multi-environment capability
 - (change `.env.example` to `.env` for the local environment configuration)
 - (change `web/htaccess.example` to `.htaccess`)
- [Lando](#) config to start a local development environment (`lando start`)
- [Laravel Envoy](#) deployment script, targeting the UTC Web App Server, test environment (`twebvmin11.is.utc.edu`)

Features

- Better folder structure
- Dependency management with [Composer](#)
- Easy WordPress configuration with environment specific files
- Environment variables with [Dotenv](#)
- Autoloader for mu-plugins (use regular plugins as mu-plugins)
- Enhanced security (separated web root and secure passwords with `wp-password-bcrypt1`)

Requirements, Plugins, Themes

- PHP >= 8.0 (provided by Lando, so no need to update PHP on your development environment)



Developer onboarding

Pre-requisites

These instructions were developed on MacOS 12.x, and assume the developer is familiar with Git source control commands and a terminal CLI.

- A Github account with permissions in the UTCWeb organization
- Latest stable version of [Lando](#) for your OS architecture, which will also install Docker Desktop to manage virtual machine systems and services for local development

Code repositories

- Fork the [upstream repo](#) to your developer Github account in UTCWeb
- Copy the SSH link from the Code button on the home page of your forked repo
- Open a terminal session on your local machine and change to a working directory `cd ~/Sites`
- Git clone the forked repo `git clone git@github.com:YourGithubHandle/utcblogsmultisite.git`
- Change to the project directory `cd utcblogsmultisite`

Installation of local development environment

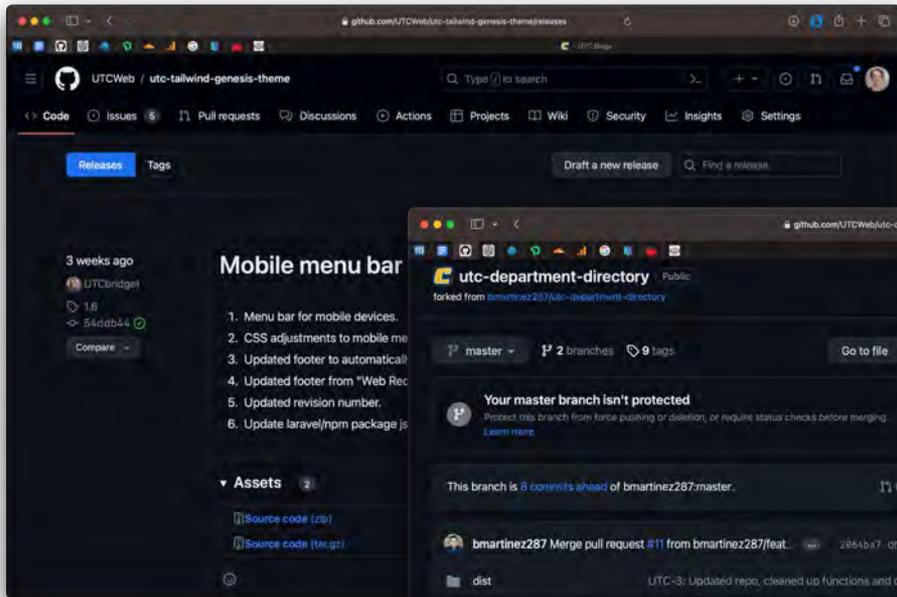
- Run `lando start`

Source Control

- ◆ Github.com/UTCWeb
 - Custom repositories
 - ◆ Custom themes
 - ◆ Custom plugins
 - Paid/Pro plugins
 - ◆ Keep in private repo
 - ◆ Update via Git push
 - ◆ Tag a new release

Source Control

- ◆ Github.com/UTCWeb
 - Paid/Pro plugins and themes
 - ◆ Private repo in your Github Org
 - Fork if Open Source (e.g. *Genesis Theme*)
 - Define as custom repo type in `Composer.json`
 - ◆ VCS (*tracks a Git branch or releases, requires composer.json in source repo*)
 - ◆ Package (*more info required in main repo composer.json*)



github.com/UTCWeb/utc-tailwind-genesis-theme

UTCWeb / utc-tailwind-genesis-theme

Code Issues Pull requests Discussions Actions Projects Wiki Security Insights Settings

Releases Tags Draft a new release Find a release

3 weeks ago

Mobile menu bar

UTCbridgel

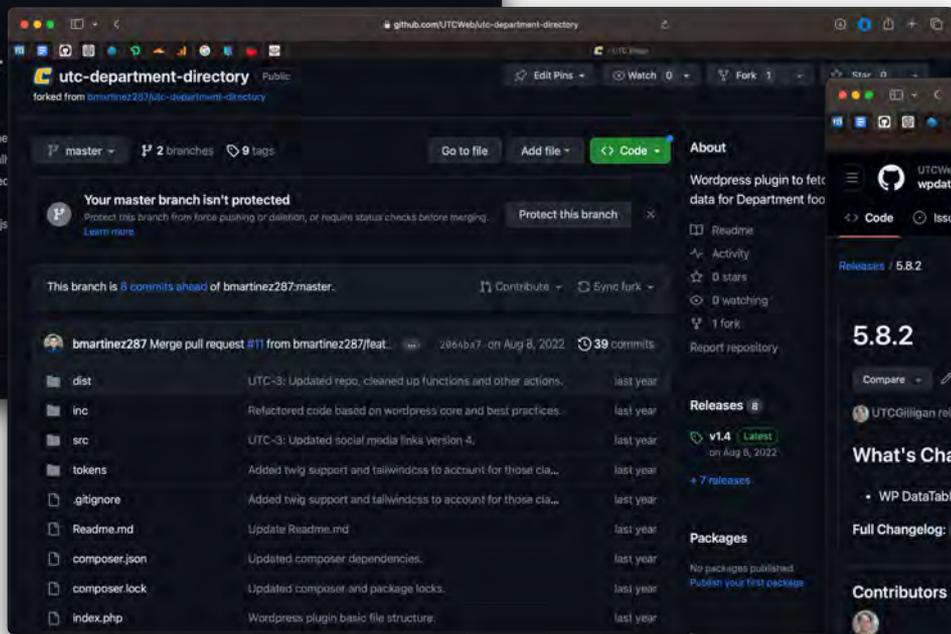
1.6
54d0bb44

Compare

1. Menu bar for mobile devices.
2. CSS adjustments to mobile me
3. Updated footer to automaticall
4. Updated footer from "Web Rec
5. Updated revision number.
6. Update laravel/npm package js

Assets

- Source code (2B)
- Source code (164.91)



github.com/UTCWeb/utc-department-directory

utc-department-directory Public
forked from bmartinez287/utc-department-directory

master 2 branches 9 tags Go to file Add file Code

Your master branch isn't protected
Protect this branch

This branch is 8 commits ahead of bmartinez287:master.

bmartinez287 Merge pull request #11 from bmartinez287/feat... 284abx7 · on Aug 8, 2022 · 39 commits

File	Description	Time
dist	UTC-3: Updated repo, cleaned up functions and other actions.	last year
inc	Refactored code based on wordpress core and best practices.	last year
src	UTC-3: Updated social media links version 4.	last year
tokens	Added twig support and tailwindcss to account for those cla...	last year
.gitignore	Added twig support and tailwindcss to account for those cla...	last year
Readme.md	Update Readme.md	last year
composer.json	Updated composer dependencies.	last year
composer.lock	Updated composer and package locks.	last year
index.php	Wordpress plugin basic file structure.	last year

About

Wordpress plugin to fetch data for Department foo

Readme
Activity
0 stars
0 watching
1 fork
Report repository

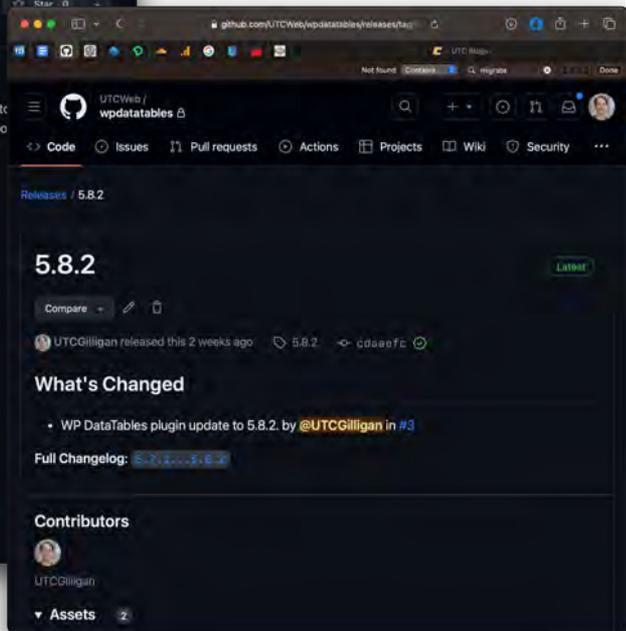
Releases 8

v1.4 Latest on Aug 8, 2022

+ 7 releases

Packages

No packages published
Publish your first package



github.com/UTCWeb/wpdatatables

UTCWeb / wpdatatables

Code Issues Pull requests Actions Projects Wiki Security

Releases / 5.8.2

5.8.2

Compare

UTCgilligan released this 2 weeks ago · 5.8.2 · 100a0efc

What's Changed

- WP DataTables plugin update to 5.8.2 by @UTCgilligan in #3

Full Changelog: [5.7.1...5.8.2](#)

Contributors

UTCgilligan

Assets

Software Package Management

- ◆ PHP Composer
 - [GetComposer.org](https://getcomposer.org)
 - [Packagist.org](https://packagist.org)
 - ◆ PHP software repos



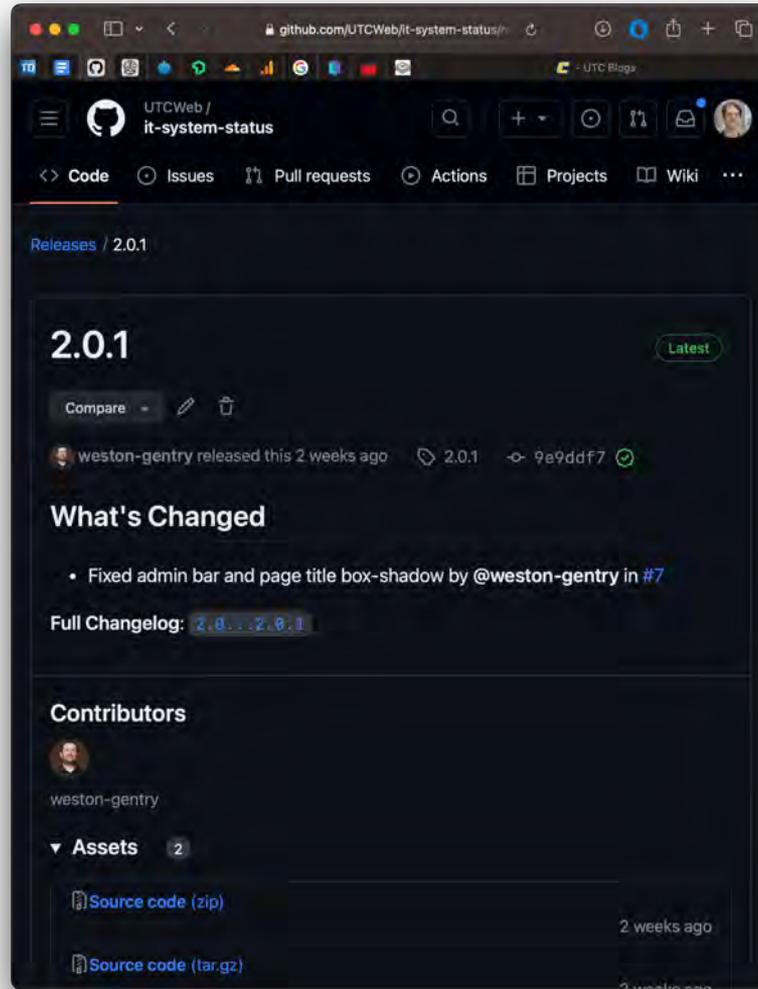
Software Package Management

- ◆ WPackagist.org Repository
 - WordPress themes and plugins
 - ◆ All open-source WordPress.org assets
 - ◆ Very few pay-to-play assets
- ◆ Composer Custom Repositories
 - Custom themes and plugins (*public or private repos*)
 - Pro themes and plugins (*private repos*)

```
178     "require": {
179         "php": "≥8.1",
180         "composer/installers": "^1.12", v1.12.0
181         "github-wp-theme/bootstrap-for-genesis": "v4", v4
182         "ht/ht-faq": "dev-main", dev-main
183         "laravel/envoy": "^2.7", v2.8.6
184         "oscarotero/env": "^2.1", v2.1.0
185         "roots/bedrock-autoloader": "^1.0", 1.0.4
186         "roots/bedrock-disallow-indexing": "^2.0", 2.0.0
187         "roots/wordpress": "<6.3", 6.2.2 Billigan, 9/17/23, 11:58 - UTC
188         "roots/wp-config": "^1.0.0", 1.0.0
189         "roots/wp-password-bcrypt": "^1.1.0", 1.1.0
190         "studiopress/genesis": "dev-master", dev-master
191         "tms/wpdatables": "^5.0", 5.8.2
192         "utc/it-system-status": "^2.0", 2.0.1
193         "utc/newsblock": "dev-main", dev-main
194         "utc/newsblock-child": "dev-main", dev-main
195         "utc/utc-department-directory": "^1.0", v1.4
196         "utc/utc-email-custom-posts": "^0.3", 0.3.10
197         "utc/utc-tailwind-genesis-theme": "^1.5", 1.6
198         "utc/wp-knowledge-base": "^1.7.0", 1.7.1.2
199         "utcgithub-wp-plugin/utc-wp-yt": "dev-master", dev-master
200         "vlucas/phpdotenv": "^5.3", v5.5.0
201         "wikimedia/composer-merge-plugin": "^2.0", v2.1.0
202         "wpkgagist-plugin/add-to-any": "^1.8", 1.8.8
203         "wpkgagist-plugin/add-widget-after-content": "^2.4", 2.4.5
204         "wpkgagist-plugin/admin-color-schemes": "^3.0", 3.0.0
```

```
{
    "type": "package",
    "package": {
        "name": "utc/utc-tailwind-genesis-theme",
        "type": "wordpress-theme",
        "version": "1.6",
        "source": {
            "type": "git",
            "reference": "main",
            "url": "git@github.com:UTCWeb/utc-tailwind-genesis-theme.git"
        }
    }
},
```

```
{
    "type": "package",
    "package": {
        "name": "tms/wpdatables",
        "type": "wordpress-plugin",
        "version": "5.8.2",
        "source": {
            "type": "git",
            "reference": "main",
            "url": "git@github.com:UTCWeb/wpdatables.git"
        }
    }
},
```



The screenshot shows a GitHub release page for the repository UTCWeb/it-system-status. The browser address bar shows the URL github.com/UTCWeb/it-system-status/. The page title is UTCWeb / it-system-status. The navigation bar includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, and a menu icon. The release section is titled "Releases / 2.0.1" and features a large "2.0.1" heading with a "Latest" badge. Below the heading are "Compare", "Edit", and "Delete" icons. The release information states "weston-gentry released this 2 weeks ago" with a commit hash of 9e9ddf7. The "What's Changed" section lists a single change: "Fixed admin bar and page title box-shadow by @weston-gentry in #7". A "Full Changelog" link is provided for the range 2.0...2.0.1. The "Contributors" section shows the profile of weston-gentry. Under the "Assets" section, there are two download links: "Source code (zip)" and "Source code (tar.gz)", both dated "2 weeks ago".

github.com/UTCWeb/it-system-status/

UTCWeb / it-system-status

Code Issues Pull requests Actions Projects Wiki

Releases / 2.0.1

2.0.1

Latest

Compare

weston-gentry released this 2 weeks ago 2.0.1 9e9ddf7

What's Changed

- Fixed admin bar and page title box-shadow by @weston-gentry in #7

Full Changelog: [2.0...2.0.1](#)

Contributors

weston-gentry

Assets 2

Source code (zip) 2 weeks ago

Source code (tar.gz) 2 weeks ago

The screenshot shows a GitHub repository page for 'wdatatables' on a dark theme. The repository is private and has 2 watchers, 0 forks, and 0 stars. The main content area displays a file tree with folders like 'Licensing', 'assets', 'config', 'controllers', 'integrations...', 'languages', 'lib', 'replace_lib', 'source', 'templates', and 'wdatatabl...'. A pull request by UTCGilligan is visible. The right sidebar contains sections for 'About' (WP Data Tables paid plugin), 'Releases' (latest version 5.8.2), 'Packages' (no packages published), and 'Languages' (PHP 49.1%, JavaScript 42.6%, CSS 8.1%, Hack 0.2%, C# 0.0%, HTML 0.0%).

github.com/UTCWeb/wdatatables

wdatatables Private

Edit Pins Unwatch 2 Fork 0 Star 0

main Go to file Add file Code

Branches Tags

UTCgilligan Merge pull request #3... 2 weeks ago 18

File/Folder	Commit Message	Time Ago
Licensing	full commit of all files	2 years ago
assets	WP DataTables plugin update ...	2 weeks ago
config	WP DataTables plugin update ...	2 weeks ago
controllers	WP DataTables plugin update ...	2 weeks ago
integrations...	Update to 5.7.	3 months ago
languages	WP DataTables plugin update ...	2 weeks ago
lib	WP DataTables plugin update ...	2 weeks ago
replace_lib	Premium plugin update to 5.6...	5 months ago
source	WP DataTables plugin update ...	2 weeks ago
templates	WP DataTables plugin update ...	2 weeks ago
wdatatabl...	WP DataTables plugin update ...	2 weeks ago

About WP Data Tables (paid plugin)

Activity 0 stars 2 watching 0 forks

Releases 7 5.8.2 Latest 2 weeks ago + 6 releases

Packages No packages published Publish your first package

Languages PHP 49.1% JavaScript 42.6% CSS 8.1% Hack 0.2% C# 0.0% HTML 0.0%

Help people interested in this repository understand your project by adding a README. Add a README

```
jty711@fyl665C02FQ48JMD6R:~/Sites/UTC/wp-assets/wpdataables 7:361  
> ls  
backpup-pro          ht-faq              newsblock-child    wpdatatables.zip  
bootstrap-wp-plugin it-system-status    strappress  
genesis             newsblock           wpdatatables  
> cd wpdatatables  
> ls -al  
total 16  
drwxr-xr-x  14 jty711  staff   448 Sep 15 08:13 .  
drwxr-xr-x  13 jty711  staff   416 Sep 15 08:12 ..  
drwxr-xr-x  15 jty711  staff   480 Oct  2 16:48 .git  
drwxr-xr-x   4 jty711  staff   128 Sep 15 08:12 Licensing  
drwxr-xr-x   7 jty711  staff   224 Sep 15 08:12 assets  
drwxr-xr-x   3 jty711  staff    96 Sep 15 08:13 config  
drwxr-xr-x   6 jty711  staff   192 Sep 15 08:13 controllers  
drwxr-xr-x   3 jty711  staff    96 Apr  5 15:07 integrations  
drwxr-xr-x  10 jty711  staff   320 Apr  5 15:07 languages  
drwxr-xr-x  13 jty711  staff   416 Sep 15 08:13 lib  
drwxr-xr-x  14 jty711  staff   448 Sep 15 08:13 replace_lib  
drwxr-xr-x  39 jty711  staff  1248 Sep 15 08:13 source  
drwxr-xr-x   6 jty711  staff   192 Sep 15 08:13 templates  
-rwxr-xr-x   1 jty711  staff  5681 Sep 15 08:13 wpdatatables.php  
  
~ / Sites / UTC / wp-assets / wpdatatables  git  maintenance/wpdatatables-5.8.2 *1  
> git push origin maintenance/wpdatatables-5.8.2
```

Deployment

- ◆ Laravel Envoy
 - Scripted SSH to run builds and deployments
 - ◆ Interacts with Test and Production environments
 - Node.js NPM for theme build
 - WP-CLI commands
 - ◆ DB updates, Permalinks, cache flush
 - Versioned releases, symlinked to public HTML
 - ◆ Rollback

Deployment

- ◆ Git clone
- ◆ Composer install
- ◆ NPM build/delete
- ◆ Directory Permissions
- ◆ Symlinks
- ◆ WP Permalinks
- ◆ DB Update and Cache Flush
- ◆ Reload HTTPD and PHP-FPM

```
'release_keep_count' => 5,  
  
/**  
 * Default git branch (optional)  
 *  
 * @example 'develop'  
 */  
'branch_default' => 'develop',  
'branch_main' => 'main', Gilligan, 1/18/22, 15:1  
  
/**  
 * Default subdirs (optional)  
 *  
 * Default deployment directories  
 * - releases: location where the releases are b  
 * - current: symlink location  
 * - shared: symlink shared from this location  
 *  
 */  
'dirs' => [  
  'releases' => 'releases',  
  'current' => 'current',  
  'shared' => 'shared',  
]
```

```
@story('deploy-prod', [ 'on' => 'prod' ])
  fetch
  composer
  npm
  permissions
  {{ $project['deploy_tactic'] }}
  symlink
  permalinks
  flush
  purge_old
@endstory

@task('fetch')
  echo 'Deploying from branch {{ $branch }}'

  echo 'Preparing directories: {{ $base_dir }}';
  [ -d {{ $releases_dir }} ] || mkdir -p {{ $releases_dir }};
  cd {{ $releases_dir }};

  git clone -b {{ $branch }} --depth=1 {{ $repository }} {{ $release }};
@endtask

@task('composer')
  # run composer install if needed
  @if ($composer_install)
    echo 'Installing Composer dependencies';
    cd {{ $releases_dir }}/{{ $release }};
    composer clear-cache;
    composer install --prefer-dist --no-scripts --no-dev --apcu-autoloader -q -o;
    echo 'Finished Composer tasks'
  @endif
@endtask
```

Future Improvements

- ◆ Composer.json for all custom projects
 - Simplifies updates for themes and plugins
 - Cleaner composer.json in main repo
 - Better automation for composer update
 - ◆ No manual point release increments

Future Improvements

- ◆ Configuration Management: WP-CFM plugin
 - Database settings committed to codebase
 - ◆ Multisite Network settings
 - ◆ Network wide plugin settings
 - ◆ Important individual blog settings
- ◆ Github Actions
 - Deployments
 - Automated testing

Thank You!

- ◆ ChrisGilligan.com/wordpress/hew2023
- ◆ Github.com/UTCgilligan
- ◆ Github.com/UTCWeb