

# Migrating WordPress Core to GitHub Actions: A Retrospective

**Jonathan Desrosiers**



# Jonathan Desrosiers

A WordPress...

- User since 2007
- Developer since 2009
- Contributor since 2012
- Committer since 2018



# Jonathan Desrosiers

- Build/Test Tool component maintainer (among others)
- Senior Software Engineer @ Bluehost
- Full-time sponsored WordPress Contributor



# Jonathan Desrosiers

@desrosj everywhere.



**2013**



# **A new frontier for Core development**

**The great reorganization**



# core.svn.wordpress.org

source: trunk @ 25000

Visit:  View revision:  View diff against:

| Name ▲                 | Size      | Rev     | Age      | Author         | Last Change  |
|------------------------|-----------|---------|----------|----------------|--|
| ↑ ../                  |           |         |          |                |  |
| ▶ wp-admin             |           | 24998 ⚙ | 9 years  | ryan           | Remove 'admin' as default username in install. Props chrusrudzki ...       |
| ▶ wp-content           |           | 24991 ⚙ | 9 years  | nacin          | Twenty Fourteen: Missing semicolons. props trishasalas. fixes #24947.      |
| ▶ wp-includes          |           | 25000 ⚙ | 9 years  | nacin          | 3.7-alpha-25000 is the final direct commit to core.svn.wordpress.org. ...  |
| 📄 index.php            | 395 bytes | 19712 ⚙ | 10 years | ryan           | Lose EOF ?>. Clean up EOF newlines. fixes #12307                           |
| 📄 license.txt          | 19.5 KB   | 23306 ⚙ | 9 years  | markjaquith    | Update the copyright notice to 2013. Yes — WordPress turns *10* this ...   |
| 📄 readme.html          | 7.0 KB    | 24744 ⚙ | 9 years  | nacin          | Remove old, less relevant and in some cases obsolete readme sections. ...  |
| 📄 wp-activate.php      | 4.5 KB    | 23310 ⚙ | 9 years  | SergeyBiryukov | Remove inaccurate inline comment. fixes #23211.                            |
| 📄 wp-blog-header.php   | 271 bytes | 19712 ⚙ | 10 years | ryan           | Lose EOF ?>. Clean up EOF newlines. fixes #12307                           |
| 📄 wp-comments-post.php | 3.4 KB    | 24713 ⚙ | 9 years  | nacin          | Use wp_slash() in places where we improperly used the DB API instead. ...  |
| 📄 wp-config-sample.php | 3.1 KB    | 16131 ⚙ | 11 years | westi          | Apply the missing bits of the patch. Fixes #13891 props TobiasBg and zeo   |
| 📄 wp-cron.php          | 2.7 KB    | 21954 ⚙ | 10 years | nacin          | Use \$gmt_time rather than \$local_time in cron, since it uses GMT/UTC ... |
| 📄 wp-links-opml.php    | 2.0 KB    | 15928 ⚙ | 12 years | dd32           | Do not Query for posts on OPML exports, Fixes OPML export script ...       |
| 📄 wp-load.php          | 2.4 KB    | 22314 ⚙ | 9 years  | azaazz         | Buttons: - Update the install/initial configuration/repair screens ...     |
| 📄 wp-login.php         | 29.1 KB   | 24779 ⚙ | 9 years  | nacin          | Use commas, not semicolons, to separate meta viewport values. props ...    |
| 📄 wp-mail.php          | 7.5 KB    | 23594 ⚙ | 9 years  | ryan           | Use wp_unslash() instead of stripslashes() and stripslashes_deep(). ...    |
| 📄 wp-settings.php      | 9.8 KB    | 23466 ⚙ | 9 years  | nacin          | Move revisions/autosave and post format functions from ...                 |
| 📄 wp-signup.php        | 21.6 KB   | 24262 ⚙ | 9 years  | SergeyBiryukov | Correct default value and inline description for \$meta argument. see ...  |
| 📄 wp-trackback.php     | 3.6 KB    | 24214 ⚙ | 9 years  | SergeyBiryukov | * Pass ellipsis as a parameter to wp_html_excerpt() instead of ...         |
| 📄 xmlrpc.php           | 2.7 KB    | 23604 ⚙ | 9 years  | SergeyBiryukov | Fix typos in phpdoc. props bradparbs. fixes #23481.                        |



# develop.svn.wordpress.org

source: trunk @ 25003

Visit:

View revision:

View diff against:

| Name ▲   | Size  | Rev   | Age                     | Author | Last Change  |
|--|---|---|-------------------------|--------|--|
|  <a href="#">../</a>          |   |   |                         |        |  |
| ▶  <a href="#">src</a>        |   | 25001  | <a href="#">9 years</a> | nacin  | New develop.svn.wordpress.org repository based on the old core.svn ... |
| ▶  <a href="#">tests</a>      |   | 25002  | <a href="#">9 years</a> | nacin  | Initial import of unit-tests repository into ...                       |
| ▶  <a href="#">tools</a>      |   | 25003  | <a href="#">9 years</a> | nacin  | Import internationalization tools from i18n.svn.wordpress.org. ...     |
|  <a href="#">.gitignore</a>   | 153 bytes  | 25001  | <a href="#">9 years</a> | nacin  | New develop.svn.wordpress.org repository based on the old core.svn ... |
|  <a href="#">Gruntfile.js</a> | 3.9 KB     | 25001  | <a href="#">9 years</a> | nacin  | New develop.svn.wordpress.org repository based on the old core.svn ... |
|  <a href="#">package.json</a> | 549 bytes  | 25001  | <a href="#">9 years</a> | nacin  | New develop.svn.wordpress.org repository based on the old core.svn ... |





## Changeset [26534](#) for [trunk/.travis.yml](#)

**Timestamp:** 12/02/2013 07:41:26 PM ([8 years](#) ago)

**Author:** [nacin](#)

**Message:** Add a Travis CI configuration file.

props bpetty.

fixes [#26364](#).

**File:**  1 added

 [trunk/.travis.yml](#)



language: php

php:

- "5.2"
- "5.3"
- "5.4"
- "5.5"

before\_script:

- mysql -e "CREATE DATABASE wordpress\_tests;" -uroot
  - cp wp-tests-config-sample.php wp-tests-config.php
  - sed -i "s/youremptytestdbnamehere/wordpress\_tests/" wp-tests-config.php
  - sed -i "s/yourusernamehere/travis/" wp-tests-config.php
  - sed -i "s/yourpasswordhere//" wp-tests-config.php
  - svn checkout https://plugins.svn.wordpress.org/wordpress-importer/trunk tests/phpunit
- /data/plugins/wordpress-importer
- npm install -g grunt-cli
  - npm install

script: grunt test



**2018**



GUTENBERG



**2019**



# Contributing through GitHub PRs

▼ Attachments (4)


- 48530.diff (2.7 KB) - added by [TimothyBlynJacobs](#) 3 months ago.
- 48530.2.diff (2.7 KB) - added by [TimothyBlynJacobs](#) 10 days ago.
- 48530.3.diff (1.7 KB) - added by [david.binda](#) 35 hours ago.
- 48530.4.diff (2.1 KB) - added by [TimothyBlynJacobs](#) 28 hours ago.

Attach another file Download all attachments as: [.zip](#)

▼ Pull Requests (2)

|   |                   |        |                            |                         |
|---|-------------------|--------|----------------------------|-------------------------|
| <a href="#">#154 REST API: Improve pe...</a> by <a href="#">@TimothyBJacobs</a> | ✖ Closed          | +34 -3 | <a href="#">View patch</a> | <a href="#">View PR</a> |
| <a href="#">#156 REST API: Fix routin...</a> by <a href="#">@TimothyBJacobs</a> | ✔ All checks pass | +37 -5 | <a href="#">View patch</a> | <a href="#">View PR</a> |

▼ Change History (17)  Oldest first  Newest first  Show comments  Show property changes  Show only commits/attachments



[@kadamwhite](#) Core Committer Component Maintainer #1

4 months ago [↩ Reply](#) [✎ Edit](#) [- Delete](#)

- Milestone changed from *Awaiting Review* to *5.4*



# Connecting WP.org and GitHub


The screenshot shows the WordPress.org profile page for Jonathan Desrosiers. The page layout includes a top navigation bar with links for News, Download & Extend, Learn, Community, and About, along with a search icon and a 'Get WordPress' button. Below this is a blue header for the 'Profiles' section, with 'Register' and 'Log In' links. The main content area features a profile card for Jonathan Desrosiers, including a circular profile picture, his name, and his handle '@desrosj on WordPress.org and Slack'. The profile is divided into several sections: 'Bio', 'Contributions' (with a 'Sponsored' tag), and 'Contribution History'. The 'Bio' section contains the text: 'I'm passionate about WordPress, open source, and the web!'. The 'Contributions' section includes a link to Bluehost and text stating: 'Bluehost sponsors Jonathan Desrosiers to contribute 42 hours per week to the Core team.' The 'Contribution History' section lists three roles: 'Core Contributor', 'Core Team', and 'Documentation Contributor', each with a corresponding icon. On the right side of the profile, there is a metadata table with the following entries: 'Member Since: September 24th, 2009', 'Location: New Bedford, Massachusetts', 'Website: jonathandesrosiers.com', 'GitHub: desrosj' (highlighted with a red box), 'Job Title: Senior Software Engineer', 'Employer: Bluehost', and 'Find me on: Twitter'.

News Download & Extend Learn Community About

Get WordPress

## Profiles

Register Log In



**Jonathan Desrosiers**  
@desrosj on WordPress.org and [Slack](#)




### Bio


I'm passionate about WordPress, open source, and the web!

### Contributions Sponsored

[Bluehost](#) sponsors Jonathan Desrosiers to contribute 42 hours per week to the [Core](#) team.

### Contribution History

-  Core Contributor
-  Core Team
-  Documentation Contributor

|               |   |
|---------------|---|
| Member Since: | September 24th, 2009  |
| Location:     | New Bedford, Massachusetts  |
| Website:      | <a href="http://jonathandesrosiers.com">jonathandesrosiers.com</a>                  |
| GitHub:       | <a href="#">desrosj</a>   |
| Job Title:    | Senior Software Engineer  |
| Employer:     | Bluehost  |
| Find me on:   |  |



**2020**





# Multi-phase Trial & Transition

1. Add workflows to achieve feature parity with Travis/CI & Appveyor.
2. Observe, collect data, evaluate.
3. Complete transition & sunset Travis/CI & Appveyor.



# ~~Moving WordPress to GitHub~~



```
26 + public $callbacks=array();
```

✗ Check failure on line 26 in src/wp-includes/class-wp-hook.php

 GitHub Actions / PHP coding standards

[src/wp-includes/class-wp-hook.php#L26](#)

Expected 1 space before "="; 0 found

✗ Check failure on line 26 in src/wp-includes/class-wp-hook.php

 GitHub Actions / PHP coding standards

[src/wp-includes/class-wp-hook.php#L26](#)

Expected 1 space after "="; 0 found

```
27
```

```
28     /**
```

```
29     * The priority keys of actively running iterations of a hook.
```

Viewed ...

```
231     // Do 'all' actions first.
```

```
232     if ( isset( $wp_filter['all'] ) ) {
```

```
233         $wp_current_filter[] = $tag;
```

```
234 +         $all_args           = func_get_args();
```

⚠ Check warning on line 234 in src/wp-includes/plugin.php

 GitHub Actions / Check PHP compatibility

[src/wp-includes/plugin.php#L234](#)

Since PHP 7.0, functions inspecting arguments, like `func_get_args()`, no longer report the original value a





github-actions bot commented 7 days ago



Hi @desrosj! 🙌

Thank you for your contribution to WordPress! ❤️

It looks like this is your first pull request to `wordpress-develop`. Here are a few things to be aware of that may help you out!

**No one monitors this repository for new pull requests.** Pull requests **must** be attached to a Trac ticket to be considered for inclusion in WordPress Core. To attach a pull request to a Trac ticket, please include the ticket's full URL in your pull request description.

**Pull requests are never merged on GitHub.** The WordPress codebase continues to be managed through the SVN repository that this GitHub repository mirrors. Please feel free to open pull requests to work on any contribution you are making.

More information about how GitHub pull requests can be used to contribute to WordPress can be found in [this blog post](#).

**Please include automated tests.** Including tests in your pull request is one way to help your patch be considered faster. To learn about WordPress' test suites, visit the [Automated Testing](#) page in the handbook.

If you have not had a chance, please review the [Contribute with Code page](#) in the [WordPress Core Handbook](#).

The [Developer Hub](#) also documents the various [coding standards](#) that are followed:

- [PHP Coding Standards](#)
- [CSS Coding Standards](#)
- [HTML Coding Standards](#)
- [JavaScript Coding Standards](#)
- [Accessibility Coding Standards](#)
- [Inline Documentation Standards](#)

Thank you,  
The WordPress Project



**Three weeks later...**



# Multi-phase Trial & Transition

1. Add workflows to achieve feature parity with Travis/CI & Appveyor.
- ~~2. Observe, collect data, evaluate.~~
3. Complete transition & sunset Travis/CI & Appveyor.



**Easy... Right?**



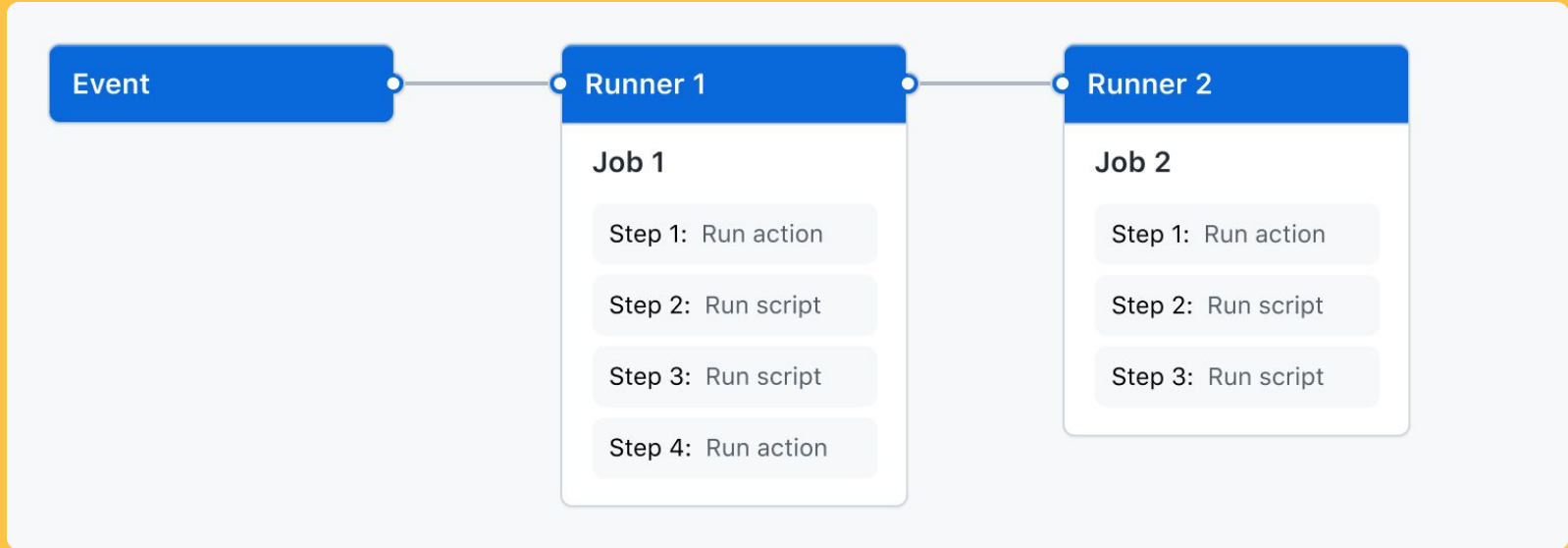




# GitHub Actions



# Anatomy of a Workflow



```
name: WordPress Build Tools
on:
  push:
    branches:
      - trunk
jobs:
  build-wordpress:
    name: Building WordPress
    runs-on: ubuntu-latest

    steps:
      - name: Check out repository
        uses: actions/checkout@v3

      - name: Setup Node.JS
        uses: actions/setup-node@v3
        with:
          node-version: '14'

      - name: Install dependencies
        run: npm install

      - name: Build WordPress
        run: npm run build
```



WordPress / **wordpress-develop** Public mirror  
 mirrored from [git://develop.git.wordpress.org/](https://github.com/WordPress/wordpress-develop)

Search or jump to... Pull requests Issues Marketplace Explore

Code Pull requests 626 Actions Security 40 Insights Settings

**Build/Test Tools: Update the NPM dependencies to the latest versions. PHPUnit Tests #11733** Re-run all jobs

Summary

Jobs

- 5.6 on ubuntu-latest
- 5.6 multisite on ubuntu-latest
- 7.0 on ubuntu-latest
- 7.0 multisite on ubuntu-latest
- 7.1 on ubuntu-latest
- 7.1 multisite on ubuntu-latest
- 7.2 on ubuntu-latest
- 7.2 multisite on ubuntu-latest
- 7.3 on ubuntu-latest
- 7.3 multisite on ubuntu-latest
- 7.4 on ubuntu-latest
- 7.4 multisite on ubuntu-latest
- 8.0 on ubuntu-latest
- 8.0 multisite on ubuntu-latest
- 8.1 on ubuntu-latest
- 8.1 multisite on ubuntu-latest
- 5.6 slow tests on ubuntu-latest
- 5.6 multisite slow tests on ubuntu-latest
- 7.4 with memcached on ubuntu-latest
- 7.4 multisite with memcached on ubuntu-latest
- Slack Notifications / Prepare notifications
- Slack Notifications / Failure notifications

Triggered via push 4 days ago  
 pento pushed → 47e10be trunk

Status: **Success** Total duration: **9m 50s** Artifacts: -

**phpunit-tests.yml**  
 on: push

Matrix: test-php

| Job                            | Status  | Duration |
|--------------------------------|---------|----------|
| 5.6 on ubuntu-latest           | Success | 7m 42s   |
| 5.6 multisite on ubuntu-latest | Success | 7m 15s   |
| 7.0 on ubuntu-latest           | Success | 7m 20s   |
| 7.0 multisite on ubuntu-latest | Success | 6m 11s   |
| 7.1 on ubuntu-latest           | Success | 5m 58s   |
| 7.1 multisite on ubuntu-latest | Success | 6m 4s    |
| 7.2 on ubuntu-latest           | Success | 6m 22s   |
| 7.2 multisite on ubuntu-latest | Success | 6m 28s   |
| 7.3 on ubuntu-latest           | Success | 6m 3s    |
| 7.3 multisite on ubuntu-latest | Success | 6m 16s   |
| 7.4 on ubuntu-latest           | Success | 7m 40s   |

Annotations

2 errors

- 8.1 on ubuntu-latest**  
Process completed with exit code 1.
- 8.1 multisite on ubuntu-latest**  
Process completed with exit code 1.





Search or jump to...

Pull requests Issues Marketplace Explore



WordPress / wordpress-develop Public mirror

Edit Pins Watch 110 Fork 1.2k Starred 1.3k

mirrored from [git://develop.git.wordpress.org/](https://github.com/WordPress/develop)

Code Pull requests 626 Actions Security 40 Insights Settings

### Build/Test Tools: Update the NPM dependencies to the latest versions. Test NPM #5147

Re-run all jobs

#### Summary

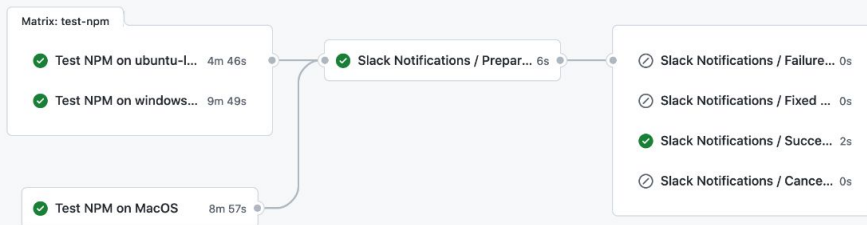
Jobs

- Test NPM on ubuntu-latest
- Test NPM on windows-latest
- Test NPM on MacOS
- Slack Notifications / Prepare notifications
- Slack Notifications / Failure notifications
- Slack Notifications / Fixed notifications
- Slack Notifications / Success notifications
- Slack Notifications / Cancelled notifications

Triggered via push 4 days ago  
pento pushed -> 47e10be trunk **Success** Total duration **11m 48s** Artifacts -

#### test-npm.yml

on: push



# Challenges



# **Multiple branches still receive security updates**

**20 branches (3.7-5.6) at the time**



# PHP Version Support

## Each WordPress version varies

Older branches test older versions of PHP using legacy images specific to TravisCI.





# **Docker environment only exists in some branches**

**Only 5.3-5.6 had this at the time.**



# **Drastically different Node.JS versions**

**The 3.7 branch used Node.JS v0.10.48**



**Changing Node.JS versions**

**=**

**Increased package sizes  
for auto-updates**



**Build process varies in  
each branch**







# **Not just the WordPress Develop repository**

**20/57 GitHub repos had TravisCI builds**



# What's been done?




## More consistent tooling across all branches

- All branches updated to use Node.JS 14 
- Docker environment backported to old branches 
- Versions of npm dependencies now mostly consistent across branches 
- grunt-patch-wordpress available in all branches 



# What's been done?

## Restored automated scanning and testing

- Workflow files backported to all older branches 
- Slack notifications restored 
- Test results reporting to the Host Test Results page 



# What's left?

## Continued refinements to contributing

- Switch from JSHint to ESLint
- Use GitHub Badges for build status indicators
- Better contributor onboarding
- Automated contribution tracking
- Automatically close pull requests after SVN commits





**What's next?**



**Thank you!**

