

# Contributing by Testing WordPress

Dive into Contributing to WordPress and Make a Difference by Testing













#### **Evan Mullins @circlecube**

#### evanmullins.com

I use WordPress every day in my role at Bluehost, where I build WordPress tools for customers and contribute back to the project. I also use it for my own freelance and hobby projects. I love the visual problem-solving side of websites and strive to make the web a better place for everyone—even your grandma.







Let's explore the ways you can contribute by testing WordPress.

Follow Along:

evanmullins.com



#### **Who Can Test?**

#### You can!

Even if you have not yet contributed to WordPress and feel under-qualified.

It might seem like a small contribution but it helps move the project along.

All are invited and welcome to help test on any level you can.



#### **Even You Can Test WordPress!**

Testing WordPress is a valuable contribution that anyone can make!

Why? Contributions keep open source projects alive and moving!

# **Contribution History**



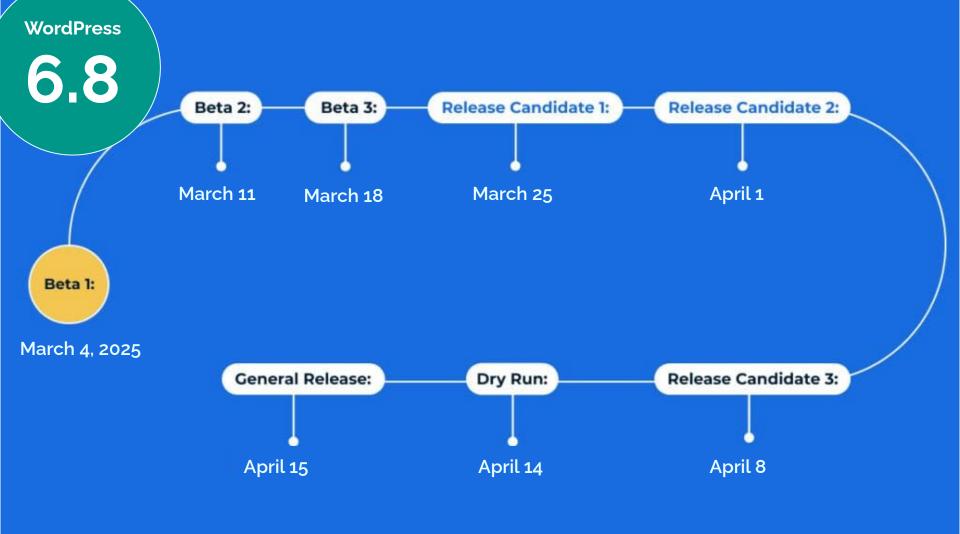
#### **Opportunities to Test WordPress**

- Test Releases ★
- 2. Test Tickets/Issues \*\*
- 3. Outreach & Usability Tests
- 4. Accessibility Tests
- 5. Automated Tests





# Release Cycle Testing





# **Release Party Testing**

### **Release Party Testing**

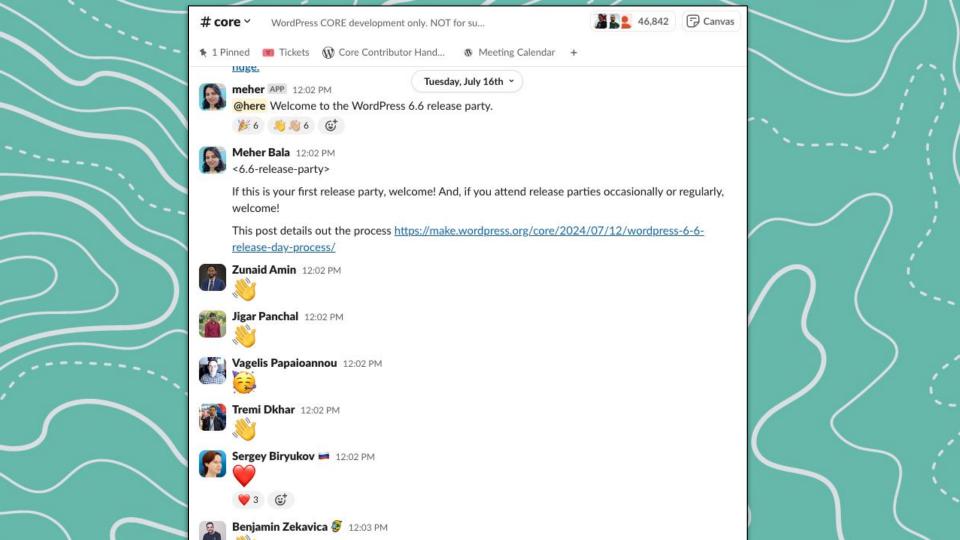
During each release, a build is available to test in real-time just before the release is public.

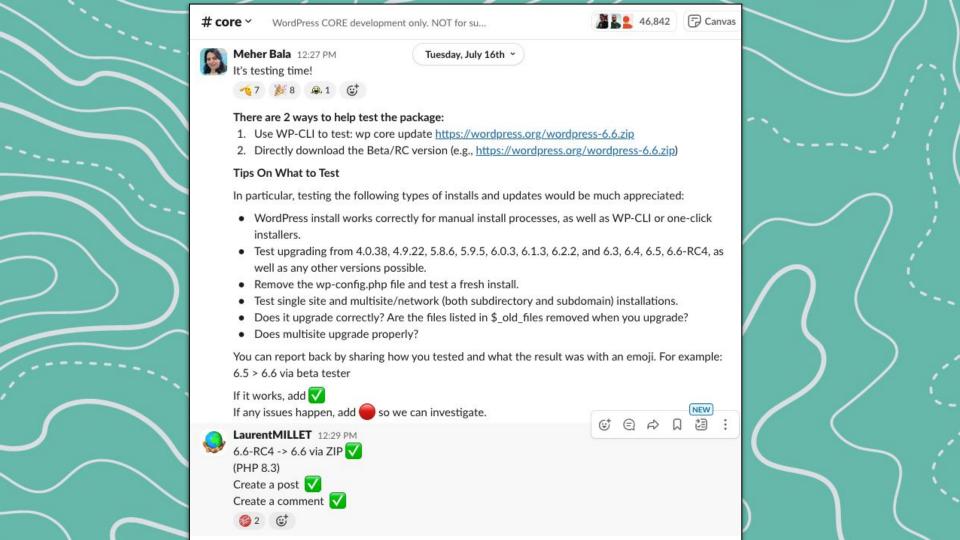
Release parties are held in the official WordPress slack (#core).



The slack team is open and free to join with a wordpress.org account.







#### **Release Party Testing**

**WP-CLI Command:** 

> wp core update https://wp.org/wp-X.Y.Z.zip

```
wp.test Shell

public wp core update https://wordpress.org/wordpress-6.8.2.zip

Starting update...

Unpacking the update...

Success: WordPress updated successfully.
```

# WordPress Beta Tester Plugin



#### WordPress Beta Tester

Install Now

More Details

Allows you to easily upgrade for testing the next versions of WordPress.

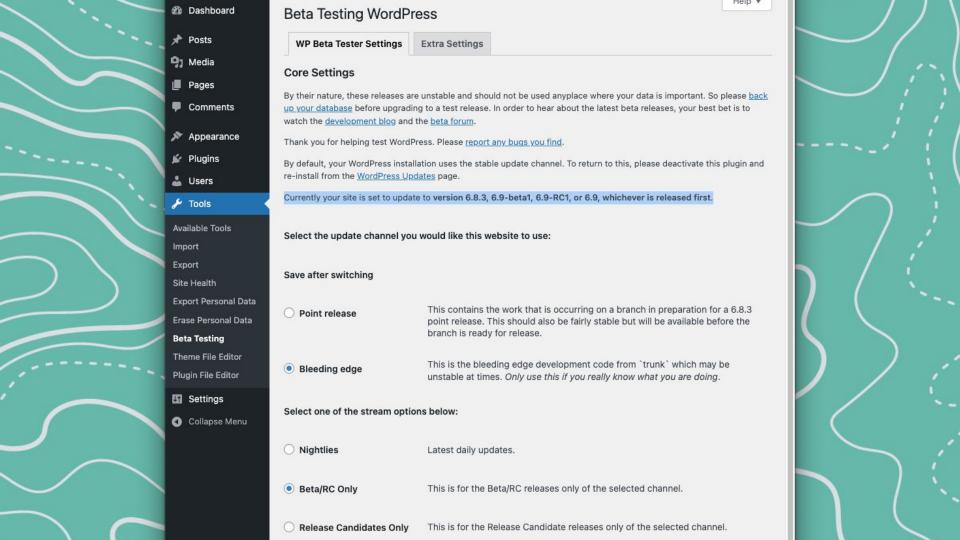
By WordPress Upgrade/Install
Team

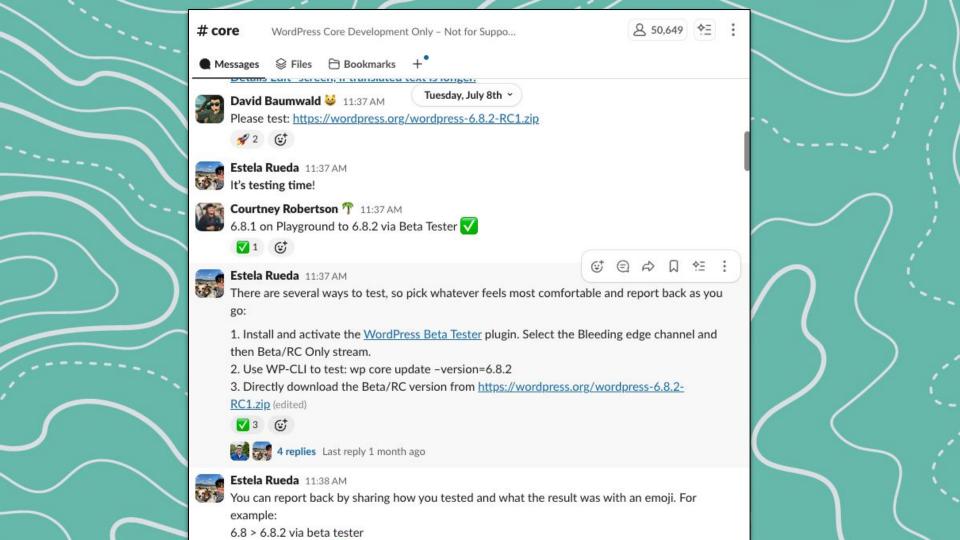


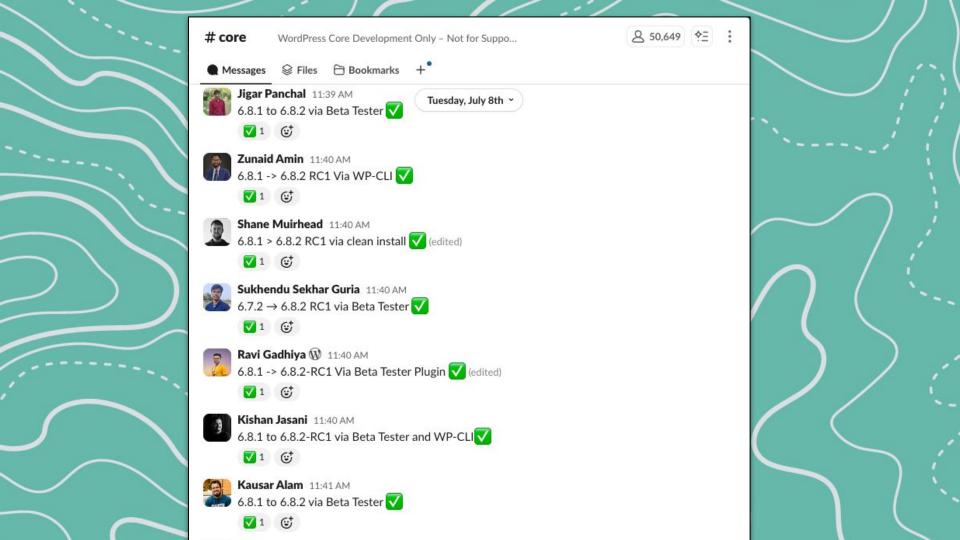
Last Updated: 2 months ago

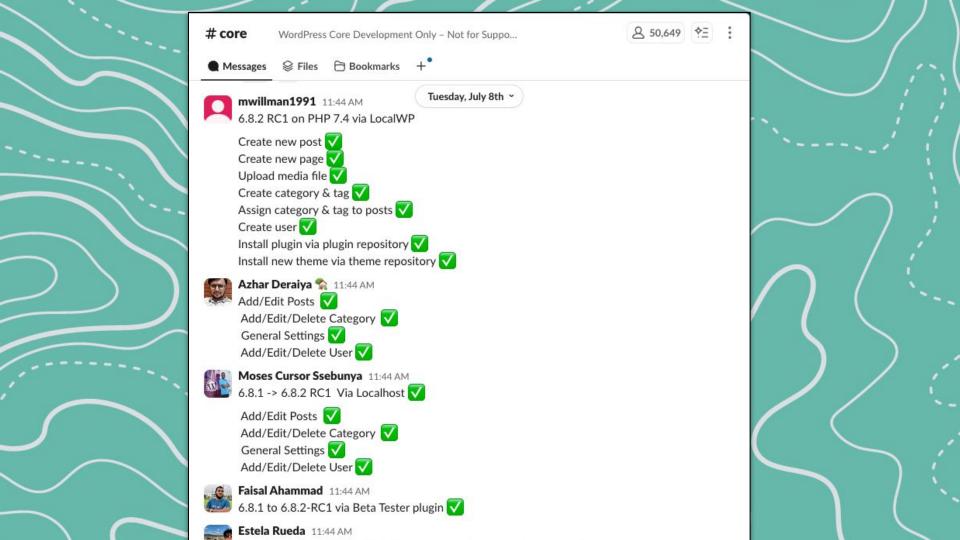
2,000+ Active Installations

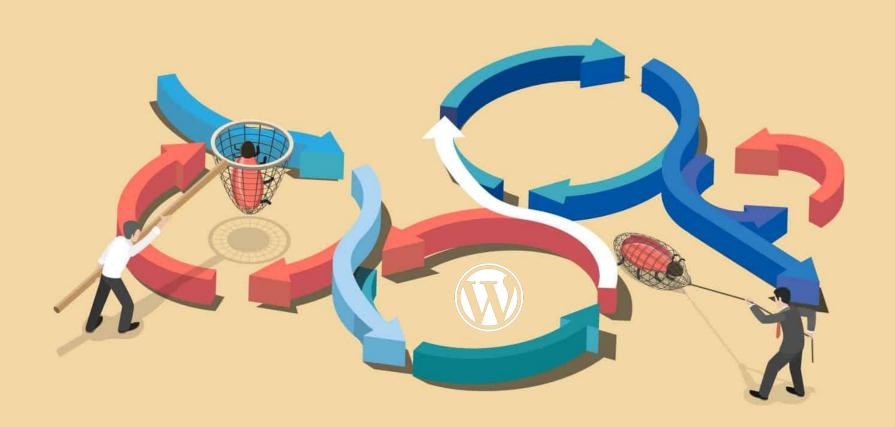
✓ Compatible with your version of WordPress











# **More Slack Meeting Shout-outs**

# <testing-onboarding> in #core-test

Open meeting to ask questions about testing and working with Trac.



# <patch-testing-scrub> in #core-test

Go through a list of tickets and help move each one towards resolution. Determining the next step needed, test, and update the ticket.



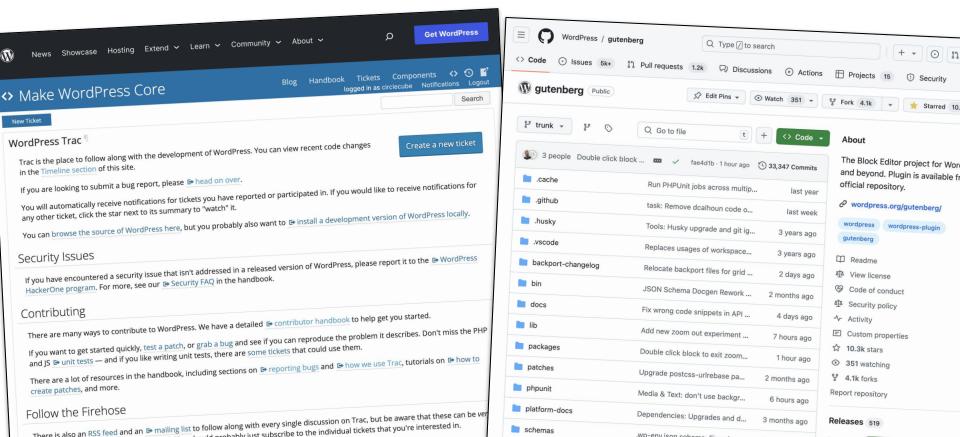
### **Testing Bug Fixes**

With every bug or issue that is reported in WordPress, we have the opportunity to:

- 1. reproduce the issue
- 2. test that a patch fixes the issue
- 3. that it doesn't cause other issues.



# 2 Paths: Core/Trac OR Gutenberg/GitHub



+ - 0 12

① Security

#### Trac Tickets - Path 1

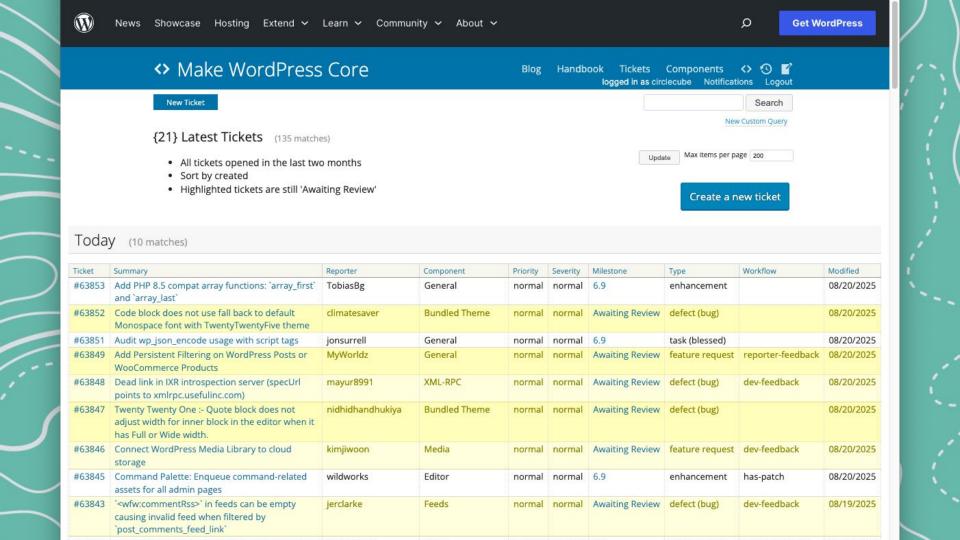
WordPress uses Trac, an open source bug tracker tool.

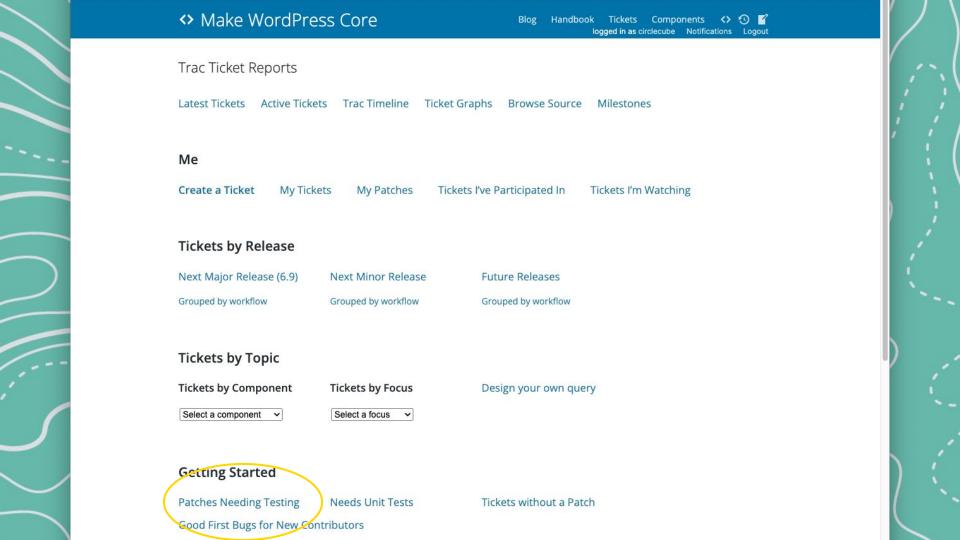
Tickets are used for both bug reports and feature development.

Tickets may be created by anyone with a WordPress.org account.

Goal to keep in mind: Participate in constructive dialog to resolve issues.







#### GitHub Issues - Path 2

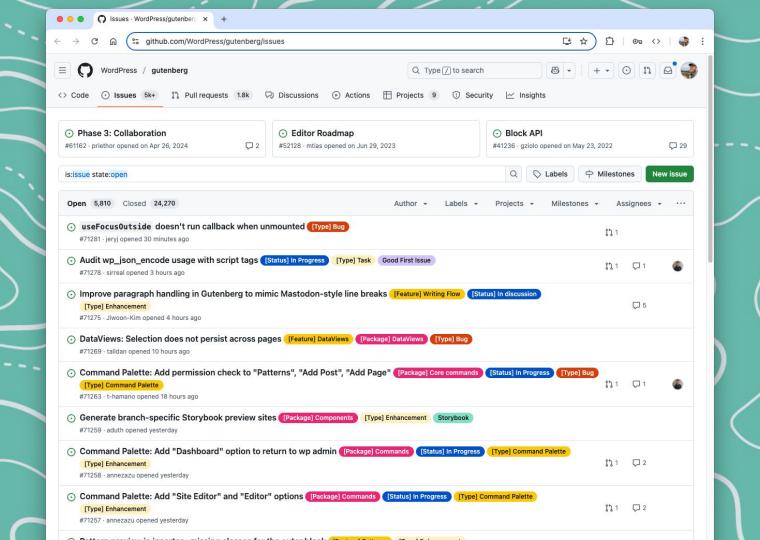
The block and site editor are both part of the Gutenberg feature plugin.

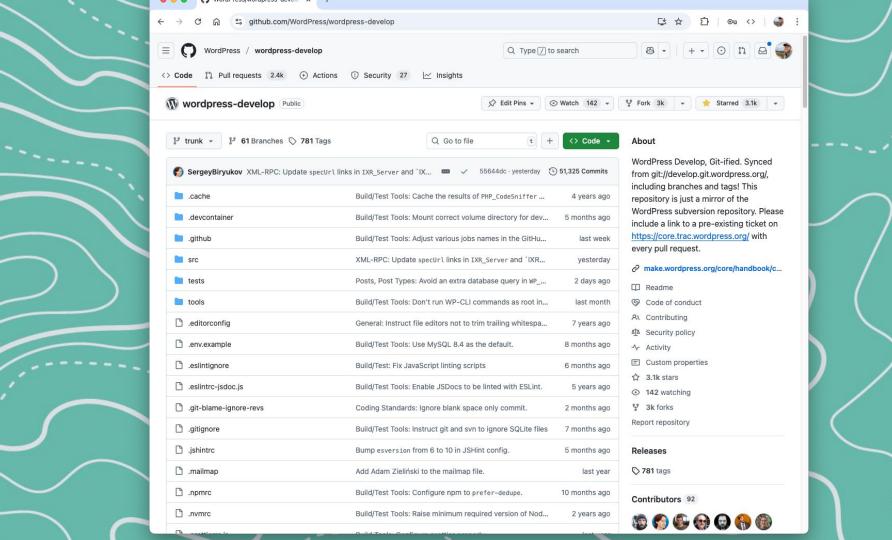
Issues related to these are in the github gutenberg project.

The ticket lifecycle is essentially the same.

Not to be confused with the WordPress mirror on github, which integrates with trac.



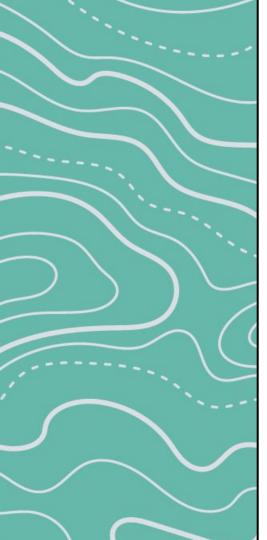




## Simplified Bug Lifecycle

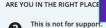
- 1. Report
- 2. Reproduce \*
- 3. Patch
- 4. Validate \*
- 5. Merge
- 6. Ship





#### Create New Ticket

#### Report





Do not report potential security vulnerabilities here.

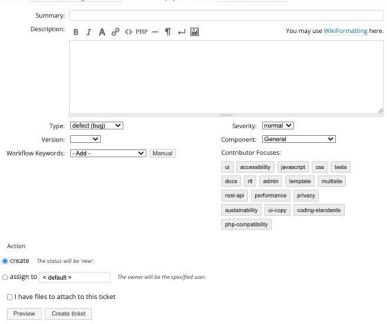
See the Security FAQ and visit the WordPress HackerOne program.

See the Seearly 174Q and 134 the 170 th 1933 Hazker one program

This form is for suggesting enhancements and reporting bugs in WordPress. Here are some questions and tips to help you write a great bug report:

- . Are you using either the latest version of WordPress, or the latest development version? If not, please update first.
- What steps should be taken to consistently reproduce the problem?
- . Does the problem occur even when you deactivate all plugins and use the default theme?
- . In case it's relevant to the ticket, what is the expected output or result? What did you see instead?
- Please provide any additional information that you think we'd find useful. (OS and browser for UI defects, server
  environment for crashes, etc.)
- · Please create Gutenberg issues on the project's GitHub issue tracker.

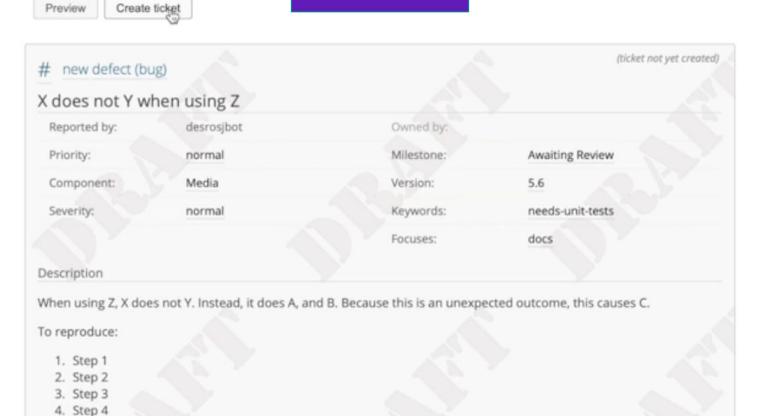
You can search for existing tickets here. For more help, please see the contributor handbook.







#### Report



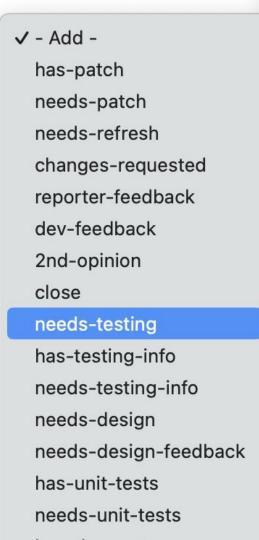
I've verified this issue on a fresh install of WordPress with all plugins disabled.

Note: See TracTickets for help on using tickets.

# **Workflow Keywords**

You can contribute at any state, but pay close attention to workflow keywords:

- #needs-testing indicates the ticket is looking for testers
- #has-patch the ticket has a patch and is ready for testing to ensure it fixes the issue
- #needs-screenshots can you reproduce the issue and add screenshots?



has-dev-note needs-dev-note add-to-field-guide has-privacy-review needs-privacy-review has-copy-review needs-copy-review needs-docs needs-user-docs has-screenshots needs-screenshots



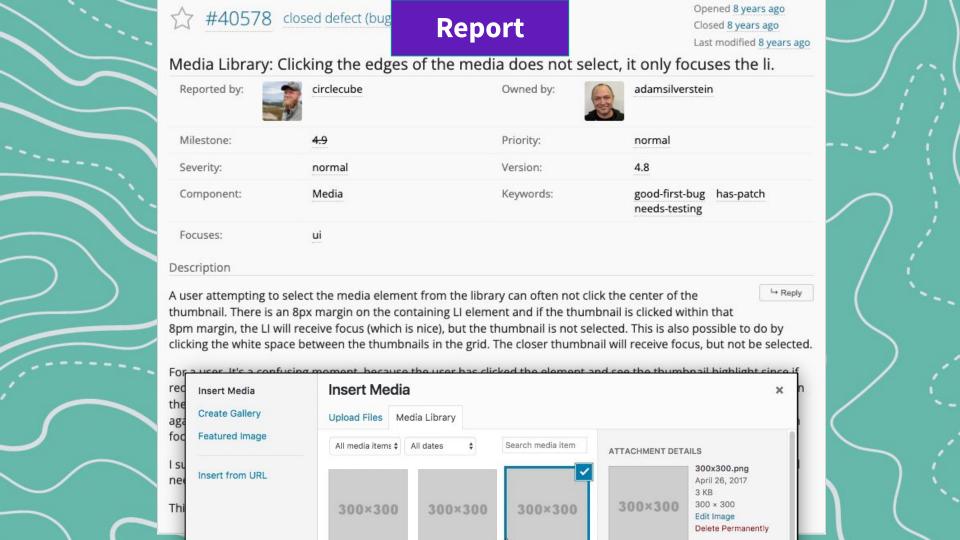
## Report

# Reporting

A user (Issue Reporter) submits a bug in WordPress core.

The Reporter's involvement doesn't end after submitting the ticket. Others may request more information with the #reporter-feedback keyword.

Reporters can also help validate and test that proposed patches fix the bug.



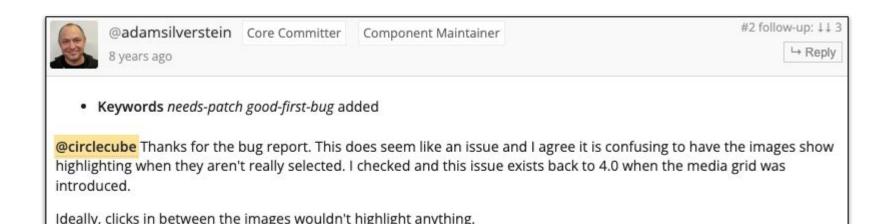
## Reproduce

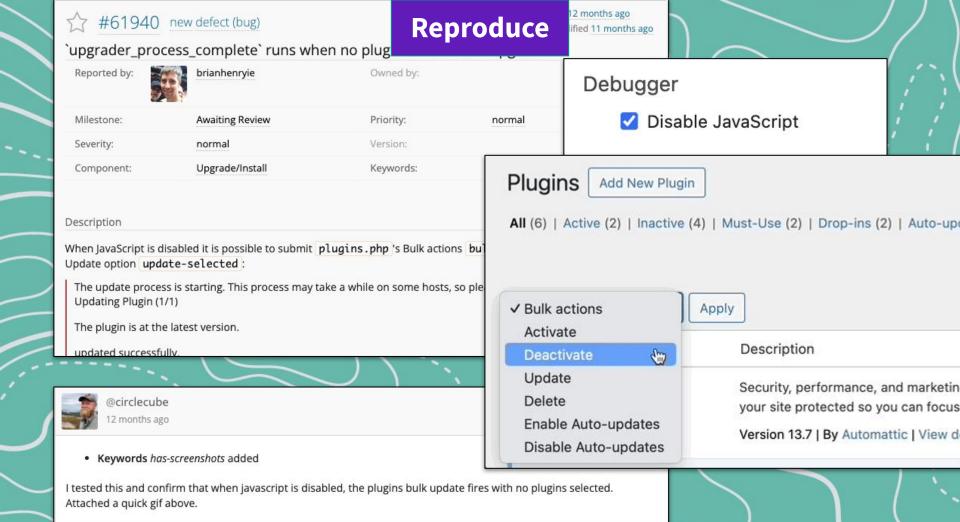
# Reproduce

Can the issue be reproduced as reported?

If you can, elaborate on the issue, write clear steps to reproduce and add screenshots.

If you can't, ask for more information and add the #reporter-feedback keyword to let the reporter know too.



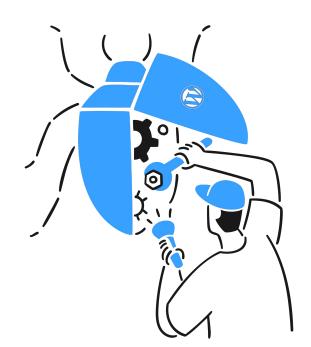


## **Patch**

Anyone can submit a code changes that fix reported bugs.

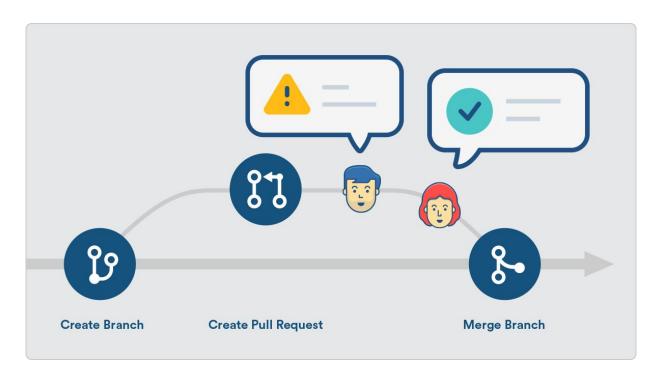
This process is also known as "patching"

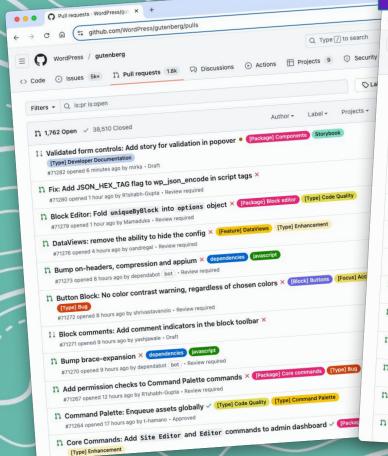
Patches on a ticket are either a submitted file that shows the code changes or a pull request to the github mirror.

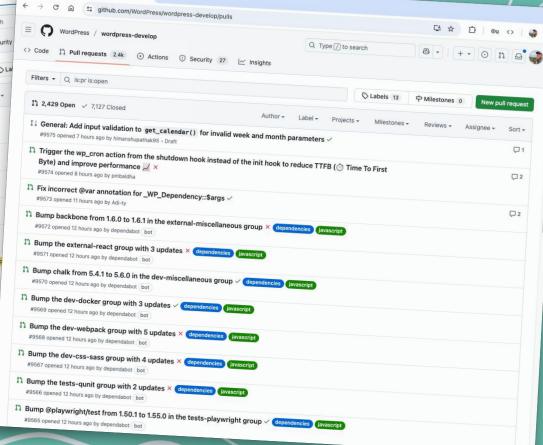


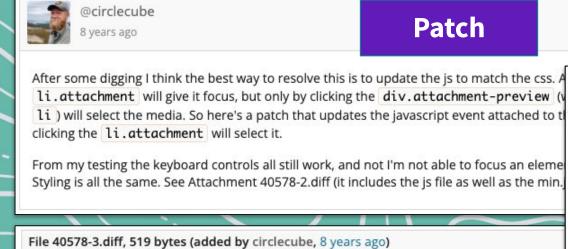
# GitHub Pull Requests

The equivalent of a Patch in git is a Pull Request, it's just a collection of code changes.









→ Reply

N Edit

Insert Media

Upload Files Media Library

All media items \$ All dates

300×300

300×300

Search media items.

300×300

300×300

300×300

cleaner patch with just the single line change

#### wp-includes/js/media-views.js

}, 2697 2697 2698 2698 2699 2699

2700

2701 2702

2703

2700

2701

2702

2703

events: { 'click .js--select-attachment': 'click': 'toggleSelectionHandler',

'change [data-setting] select':

'change [data-setting]':

'updateSetting', 'change [data-setting] input':

'updateSetting',

'updateSetting',

'toggleSelectionHandler',

## Validate or Test a Patch

Testing patches is an important part of ensuring the quality of WordPress.

#### Steps:

- WordPress Environment
- 2. Reproduce the issue
- 3. Apply the patch
- 4. Perform Testing: try to reproduce the issue again
- 5. Give feedback

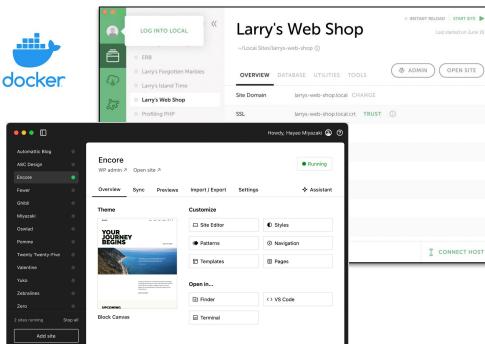
## **Test Environment**

There are multiple ways to set up a local core WordPress environment. Find one that works for you. There are many helpful tools:

- Docker
- wp-env
- Local
- Studio
- Playground







# **Applying Code Updates**

There are also multiple ways to update code to test updates in WordPress:

.diffs PRs Playground

#### ▼ Attachments (6) ■ 20170426-media-library-focus-select.gif 및 (1.8 MB) - added by circlecube 7 years ago. media library focus select issue ■ 40578.diff 🗣 (923 bytes) - added by *psiico* 7 years ago. patch ■ 40578-2.diff 🖫 (134.7 KB) - added by circlecube 7 years ago. ■ May-01-2017 10-59-20-patch40578-2.gif **(2.0 MB)** - added by circlecube 7 years ago. here's a screengif of the patch with the fix. ■ 40578-3.diff 🖵 (519 bytes) - added by circlecube 7 years ago. cleaner patch with just the single line change ■ 40578.2.diff 🗣 (1.1 KB) - added by *adamsilverstein* 7 years ago. Attach another file

# Apply .diff for testing

Apply a patch to your local working copy with grunt commands.

- > npm run grunt patch after download the diff
- > npm run grunt patch: 00000 include ticket number
- > npm run grunt patch:<link.to/ticket/00000>-link
- > npm run grunt patch:<link.to/00000.diff>-difflink



- → wordpress-develop git:(trunk) npm run grunt patch:61381
  - > WordPress@6.7.0 grunt
  - > grunt patch:61381

```
package.json has not been modified.
Running "patch:61381" (patch) task
patching file 'src/js/_enqueues/wp/updates.js'
```

Done.

○ → wordpress-develop git:(trunk) x

#### ▼ Attachments (9)

#### **Validate**

- Screenshot 2020-10-16 at 11.10.57.png 🖫 (33.9 KB) added by *johnbillion* 4 years ago.
- Screenshot 2020-10-16 at 11.11.26.png 및 (25.3 KB) added by *johnbillion* 4 years ago.
- 51551.patch  **(429 bytes)** added by *opurockey* 4 years ago. *Apply patch*
- 51551.1.patch 👽 (429 bytes) added by *opurockey* 4 years ago. *Apply patch*
- admin-menu.png 🖫 (44.1 KB) added by *ryelle* 3 years ago.
- 51551.2.diff 및 (379 bytes) added by *kurudrive* 3 years ago.
- 51551\_1\_ss.png 🖫 (364.7 KB) added by *kurudrive* 3 years ago.
- 51551.3.diff 및 (362 bytes) added by *kurudrive* 3 years ago.
- admin-menu- 51551-3-diff.mov 및 (802.4 KB) added by *kurudrive* 3 years ago.

Attach another file

Download all attachments as: .zip

#### ▼ Pull Requests (2)

#685 51551 Unclickable area within admi... by @colinduwe

✓ Closed +17 -1

View patch View PR

#1629 remove the cursor pointer rule for... by @circlecube

☑ Closed +0 -1

View patch

View PR

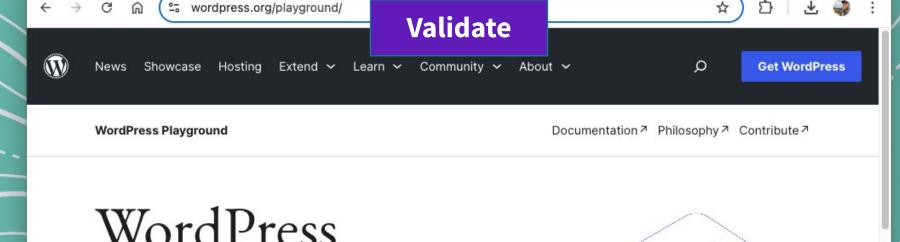
# Apply .diff for testing

The same grunt commands work with PRs too

```
> npm run grunt patch:<link.to.patch/00000.diff>
```

> npm run grunt patch:<link.to.pr/00000>

or checkout the git branch associated with the pull request



# WordPress in one click

WordPress Playground is the platform that lets you run WordPress instantly on any device without a host. It's your place to build, experiment, test, and grow.

**Explore Playground** 





#### **Test using WordPress Playground**

The changes in this pull request can previewed and tested using a WordPress Playground instance.

WordPress Playground is an experimental project that creates a full WordPress instance entirely within the browser.

#### Some things to be aware of

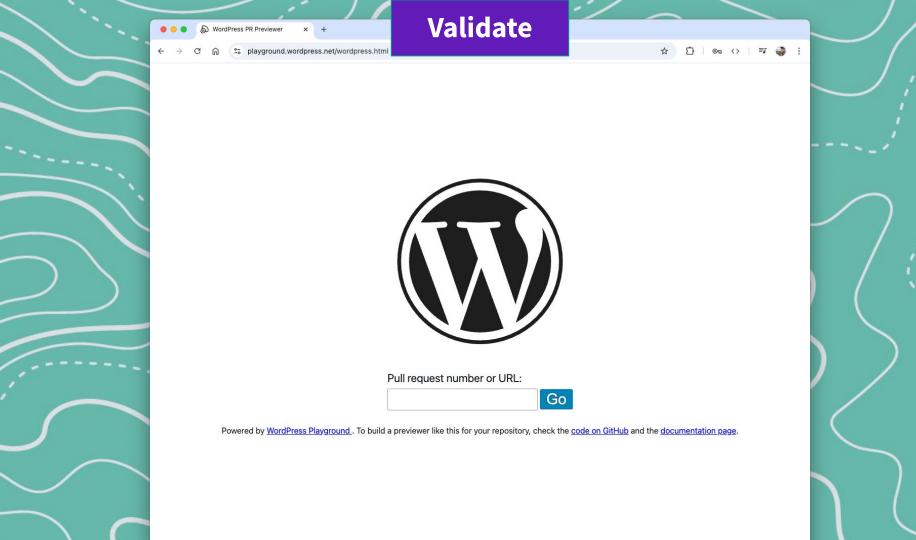
- The Plugin and Theme Directories cannot be accessed within Playground.
- All changes will be lost when closing a tab with a Playground instance.
- · All changes will be lost when refreshing the page.
- · A fresh instance is created each time the link below is clicked.
- Every time this pull request is updated, a new ZIP file containing all changes is created. If changes are not reflected in the Playground instance,

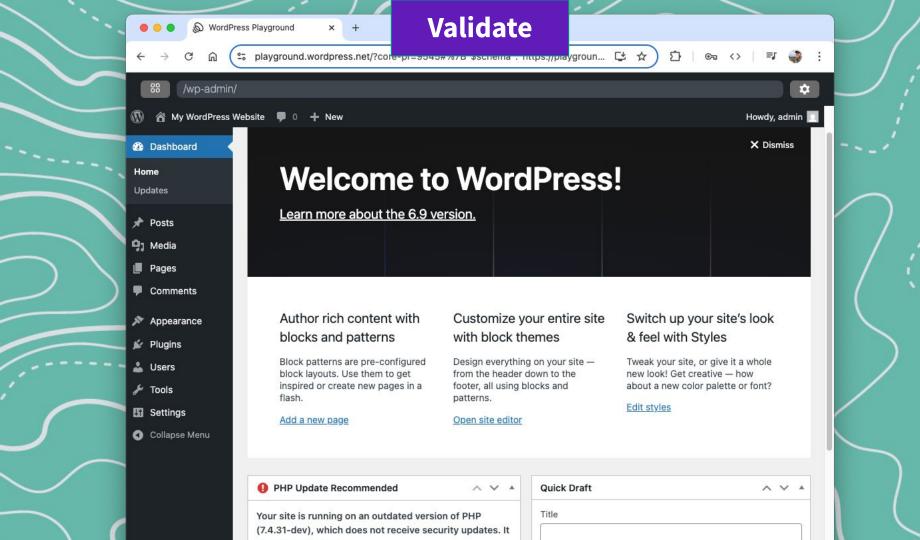
it's possible that the most recent build failed, or has not completed. Check the list of workflow runs to be sure.

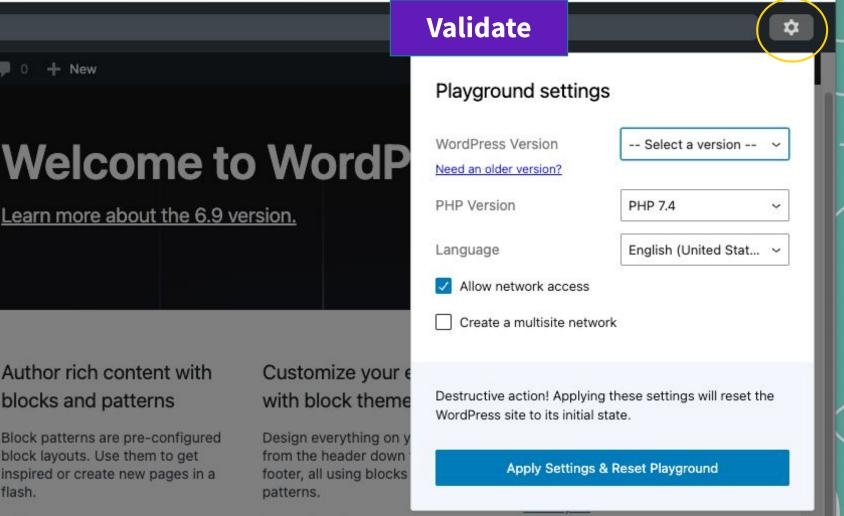
For more details about these limitations and more, check out the <u>Limitations page</u> in the WordPress Playground documentation.

Test this pull request with WordPress Playground.









Add a new page

flash.

New

Learn more about the 6.9 version.

Author rich content with

Block patterns are pre-configured

inspired or create new pages in a

block layouts. Use them to get

blocks and patterns

Open site editor

patterns.

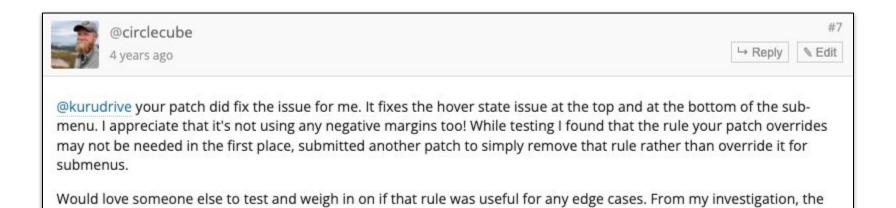
## Give Feedback, Continue the Discussion

Whether testing in Playground or locally, be sure to give feedback after testing a patch!

Most importantly, indicate if the patch fixes the issue for you.

As always, screenshots are worth a thousand words!

There are even templates to get you started if you're not sure what to say.



== Test Report This report validates that the indicated patch addresses the issue. Patch tested: REPLACE\_WITH\_PATCH\_URL === Environment - OS: macOS 12.3.1 - Web Server: Nginx - PHP: 7.4.29 - WordPress: 6.0-RC1-53341-src - Browser: Safari 15.4 - Theme: Twenty Twenty-Two - Active Plugins: - Gutenberg 13.2.0 - WordPress Beta Tester 3.2.1 === Actual Results - ✓ Issue resolved with patch. === Additional Notes - Any additional details worth mention. === Supplemental Artifacts Add Inline: [[Image(REPLACE\_WITH\_IMAGE\_URL)]] Or Add as Attachment

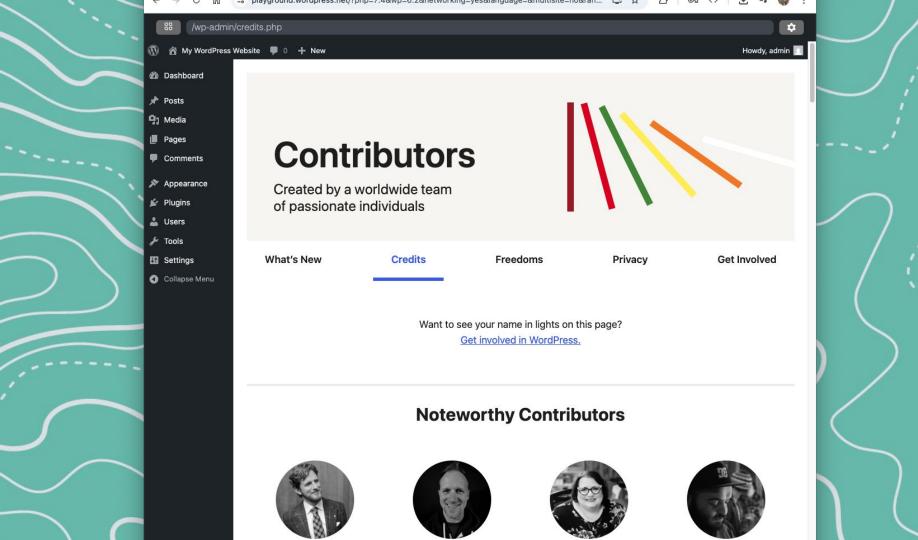
## Merge & Ship

# Merge and Ship

Once the bug is reported, reproduced, patched and validated a core committer may then merge the code changes.

This updates the source code to WordPress and is typically then released in the next release!







# **FSE Outreach Experiment Project**

In 2020, experiment outreach project started to better connect those building with WordPress and upcoming features.

The program now encompases various hallway hangouts, calls for testing, and an outreach channel in slack.

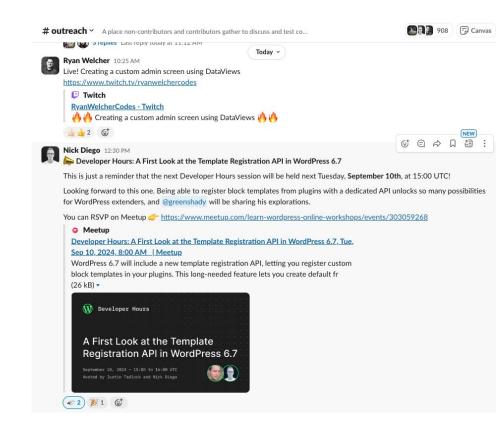




## #outreach

A slack channel where non-contributors and contributors gather to discuss and test coming features.

Beyond bug reports and PRs.
A space for site builders and extenders.





# Testing for Web Accessibility (a11y)

One in four people in the United States has a disability.

Technology built with accessibility in mind makes things easier for everyone.

WordPress tests against the WCAG 2.1 AA guidelines.



## **A11**y

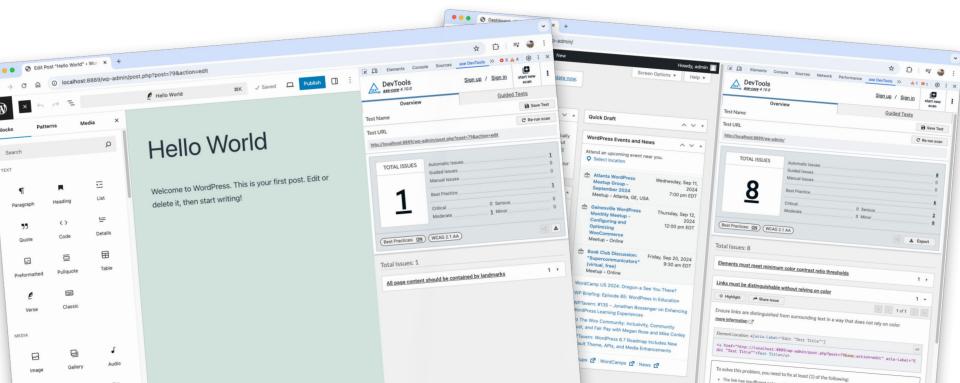
- Perceivable
   Is all content available to everyone?
- 2. Operable Can visitors use all functionality?
- 3. Understandable
  Can visitors comprehend all content?
- 4. Robust Can visitors use any device?

- Keyboard Navigation
- Color Contrast
- Screen Reader Compatibility
- Image alt text
- ...



## **A11y: Resources**

aXe browser addon for Chrome and FireFox



## A11y: Get Involved

**WordPress Accessibility Day 2025** 

October 15th-16th - Free Livestream



<u>Accessibility Handbook</u> | <u>Gutenberg</u>

Trac tickets with an accessibility focus

Gutenberg ticket labels:

**Needs Accessibility Feedback** 

[Focus] Accessibility (a11y)

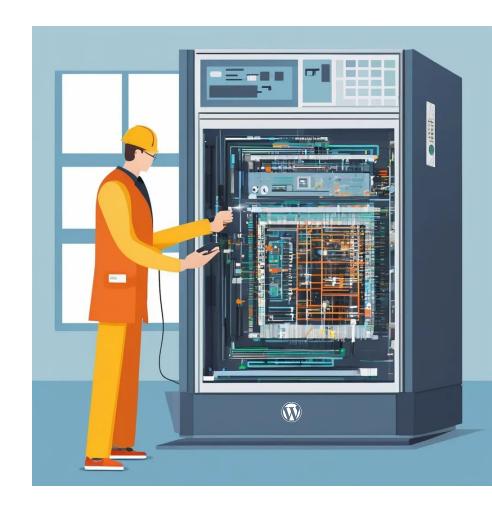


# **Automated Testing**

Automated Tests check that each component runs as it should.

Unit tests validate the expected behavior of isolated source code.

E2E (end to end) tests simulate a real user scenario and validate user flows.

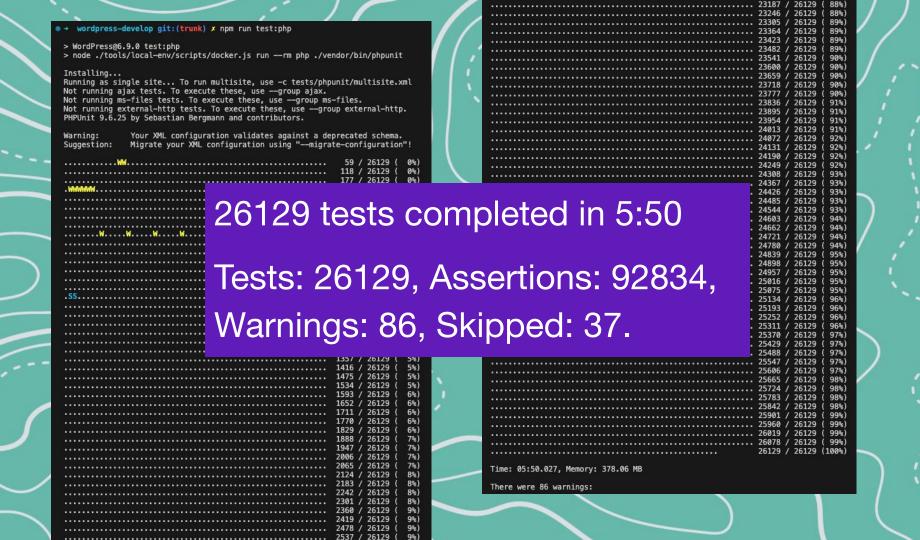


## **PHP Unit Tests - PHPUnit**

PHPUnit for PHP testing:

```
npm install
npm run build:dev
npm run env:start
npm run env:install
npm run test:php
```





```
/**
* Tests that an empty string is returned when the user does not have the correct capabilities.
* @ticket 61400
public function test_should_return_empty_string_without_proper_capabilities() {
   wp_set_current_user( self::$user_id );
   $actual = wp_get_plugin_action_button(
       self::$test_plugin->name,
       self::$test_plugin,
       true,
       true
   $this->assertIsString( $actual, 'A string should be returned.' );
   $this->assertEmpty( $actual, 'An empty string should be returned.' );
```

## **JS Unit tests - QUnit**

**QUnit for Javascript testing** 

Clone wordpress-develop

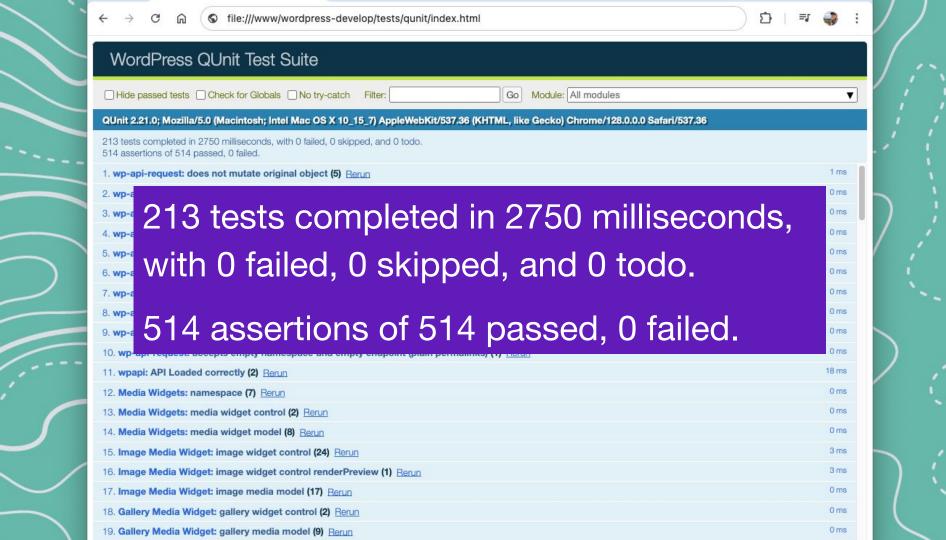
npm install

composer install

npm run build

Open /tests/qunit/index.html





```
/* global passwordStrength, wp, jQuery */
jQuery( function() {
    QUnit.module( 'password-strength-meter' );
    QUnit.test( 'mismatched passwords should return 5', function( assert ) {
        assert.equal( passwordStrength( 'password1', 'username', 'password2' ), 5, 'mismatched passwords return 5' );
    });
    QUnit.test( 'passwords shorter than 4 characters should return 0', function( assert ) {
        assert.equal( passwordStrength( 'abc', 'username', 'abc' ), 0, 'short passwords return 0' );
    });
    QUnit.test( 'long complicated passwords should return 4', function( assert ) {
        var password = function( length ) {
            var i, n, retVal = '',
                possibility = 'abcdefghijklnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789';
            for ( i = 0, n = possibility.length; i < length; i++ ) {
                retVal += possibility.charAt( Math.floor( Math.random() * n ) );
            return retVal + 'aB2'; // Add a lower case, uppercase and number just to make sure we always have one of each.
        twofifty = password( 250 );
        assert.equal( passwordStrength( twofifty, 'username', twofifty ), 4, '250 character complicated password returns 4');
    });
```

# End to End (e2e) Tests - Playwright

- Clone wordpress-develop
- Setup and run the wordpress environment

```
npm install
npm run env:start
npm run test:e2e
```

Gutenberg also has it's own playwright tests.

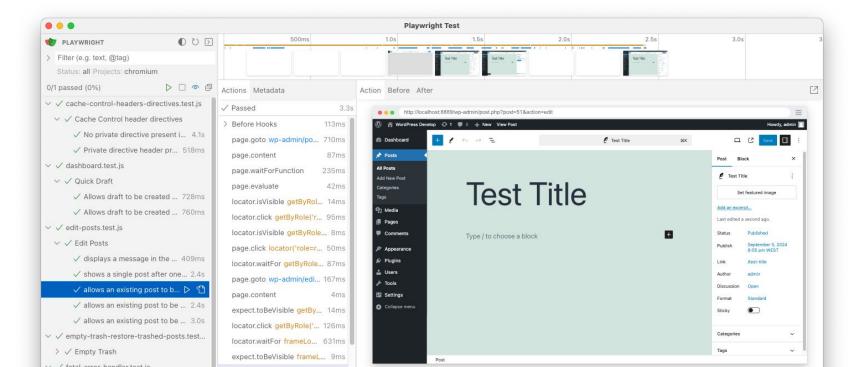


```
> WordPress@6.9.0 test:e2e
 > wp-scripts test-playwright --config tests/e2e/playwright.config.js
 Running 25 tests using 1 worker
   1 ...tives.test.js:11:6 > Cache Control header directives > No private directive present in cache control when user not logged in. (8.6s)
     2 ...irectives.test.js:35:6 > Cache Control header directives > Private directive header present in cache control when logged in. (458ms)
     3 ...:49:6 > Cache Control header directives > Correct directives present in cache control header when not logged in on 404 page. (225ms)
     4 [chromium] > tests/e2e/specs/dashboard.test.js:11:6 > Quick Draft > Allows draft to be created with Title and Content (1.1s)
     5 [chromium] > tests/e2e/specs/dashboard.test.is:48:6 > Quick Draft > Allows draft to be created without Title or Content (949ms)
      6 ...um] > tests/e2e/specs/edit-posts.test.js:11:6 > Edit Posts > displays a message in the posts table when no posts are present (306ms)
      7 ...m] > tests/e2e/specs/edit-posts.test.js:21:6 > Edit Posts > shows a single post after one is published with the correct title (3.7s)
     8 [chromium] > tests/e2e/specs/edit-posts.test.js:42:6 > Edit Posts > allows an existing post to be edited using the Edit button (2.7s)
      9 ...tests/e2e/specs/edit-posts.test.js:72:6 > Edit Posts > allows an existing post to be quick edited using the Quick Edit button (2.0s)
   ✓ 10 ...mium] > tests/e2e/specs/edit-posts.test.js:110:6 > Edit Posts > allows an existing post to be deleted using the Trash button (1.8s)
     11 [chromium] > tests/e2e/specs/empty-trash-restore-trashed-posts.test.js:13:6 > Empty Trash > Empty Trash (3.1s)
   12 [chromium] > tests/e2e/specs/empty-trash-restore-trashed-posts.test.js:33:6 > Empty Trash > Restore trash post (3.7s)
   13 [chromium] > tests/e2e/specs/fatal-error-handler.test.js:33:6 > Fatal error handler > should display fatal error notice (95ms)
     14 ...neral-settings-invalid-timezone.test.js:7:7 > Settings -> General > Does not allow saving an invalid timezone string with "" (1.4s)
     15 ...ral-settings-invalid-timezone.test.js:7:7 > Settings -> General > Does not allow saving an invalid timezone string with "0" (900ms)
      16 ...ngs-invalid-timezone.test.js:7:7 > Settings -> General > Does not allow saving an invalid timezone string with "Barry/Gary" (892ms)
     17 [chromium] > tests/e2e/specs/gutenberg-plugin.test.js:25:6 > Gutenberg plugin > should activate (1.9s)
      18 [chromium] > tests/e2e/specs/hello.test.js:7:6 > Hello World > Should load properly (275ms)
   # 19 ...pecs/install.test.js:34:6 > WordPress installation process > should install WordPress with pre-existing database credentials (5.2s)
      20 [chromium] > tests/e2e/specs/login-localize-script.test.js:45:6 > Localize Script on wp-login.php > should localize script (437ms)
   21 [chromium] > tests/e2e/specs/maintenance-mode.test.js:27:6 > Maintenance mode > should display maintenance mode page (95ms)
 Failed to load resource: the server responded with a status of 503 (Service Unavailable)
     22 [chromium] > tests/e2e/specs/media-upload.test.js:11:5 > Test dismissing failed upload works correctly (896ms)
      23 ...le/applications-passwords.test.js:19:6 > Manage applications passwords > should correctly create a new application password (720ms)
      24 ...applications-passwords.test.js:43:6 > Manage applications passwords > should correctly revoke a single application password (588ms)
   25 ...applications-passwords.test.is:66:6 > Manage applications passwords > should correctly revoke all the application passwords (616ms)
```

```
test.describe( 'Edit Posts', () => {
    test.beforeEach( async ( { requestUtils }) => {
        await requestUtils.deleteAllPosts();
    1);
    test( 'displays a message in the posts table when no posts are present', async ( {
        admin,
        page,
      ) => {
        await admin.visitAdminPage( '/edit.php' );
        await expect(
            page.getByRole( 'cell', { name: 'No posts found.' } )
        ).toBeVisible();
    } );
    test( 'shows a single post after one is published with the correct title', async ( {
        admin,
        editor,
        page,
        => {
```

# End to End (e2e) Tests - Playwright

Watch the tests run: npm run test:e2e -- --ui



# **Recap Testing Opportunities**

- 1. Test Releases
- 2. Test Tickets/Issues
- 3. Outreach & Usability Tests
- 4. Accessibility Tests
- 5. Automated Tests



# WordPress Wants You to Contribute via Testing



# Thank You!

Questions?

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