Silverstripe CMS

Contributing to Silverstripe CMS

a (relatively) comprehensive guide

Stripecon EU 2023

Who’s this person?

Guy Sartorelli

- Senior Product Developer at Silverstripe
- Silverstripe Core Committer
- Contributed several bug fixes and feature enhancements to Silverstripe CMS prior to being employed at Silverstripe

Managing contributions

How *you* can contribute

Silverstripe CMS

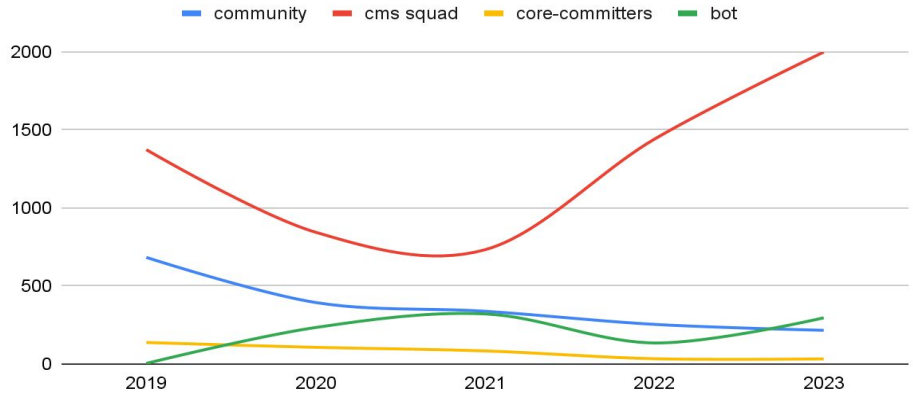
Managing contributions

Gaining and maintaining momentum for merging community pull requests

Current state of contribution management

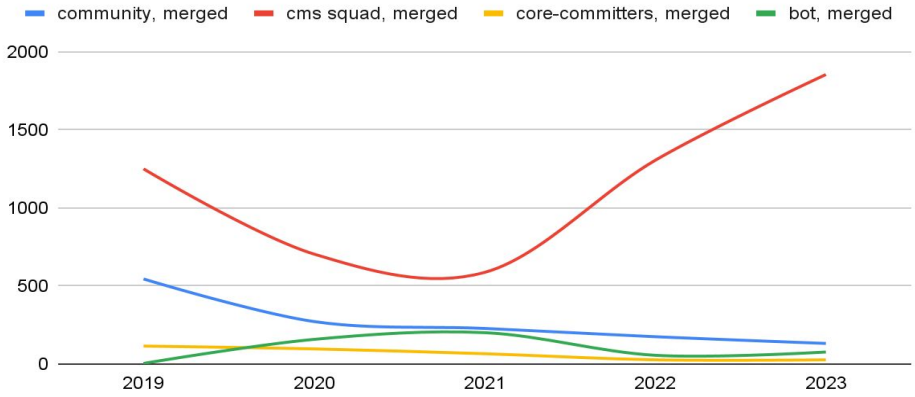
- We merge community-created pull requests on an ad-hoc basis
- There's a sentiment that pull requests don't get looked at, so it's not worth raising them
- CMS Squad (4 people) and Core Committers (additional 9 people) are the only people with merge powers
    - Not many of the Core Committers actively review/merge pull requests recently
    - There's no clear path for giving those powers to more people

Total pull requests opened by creator type



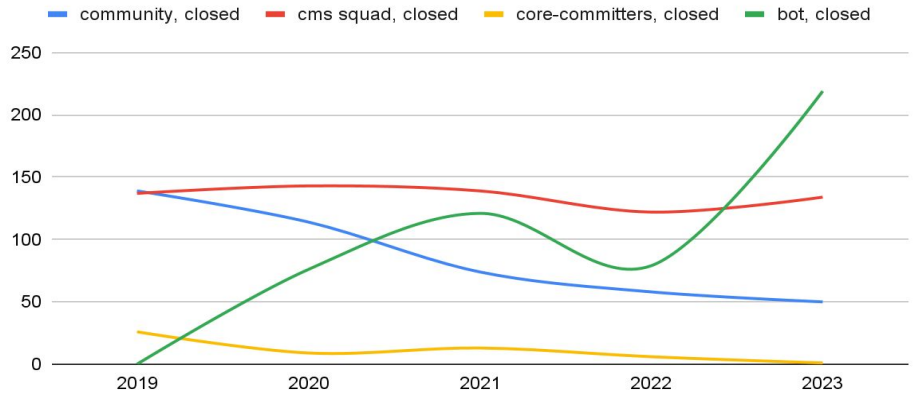
Created date, for date ranges from 2018-09-04 to 2023-09-03 (inclusive)

Pull requests merged by creator type



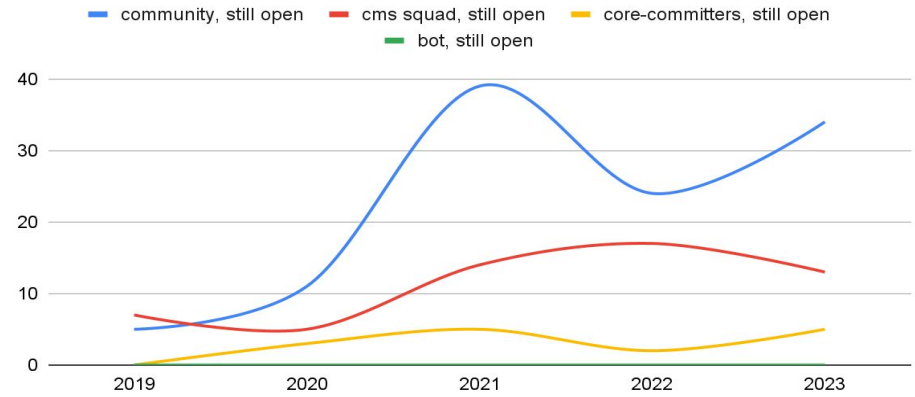
Created date, for date ranges from 2018-09-04 to 2023-09-03 (inclusive)

Pull requests closed (not merged) by creator type



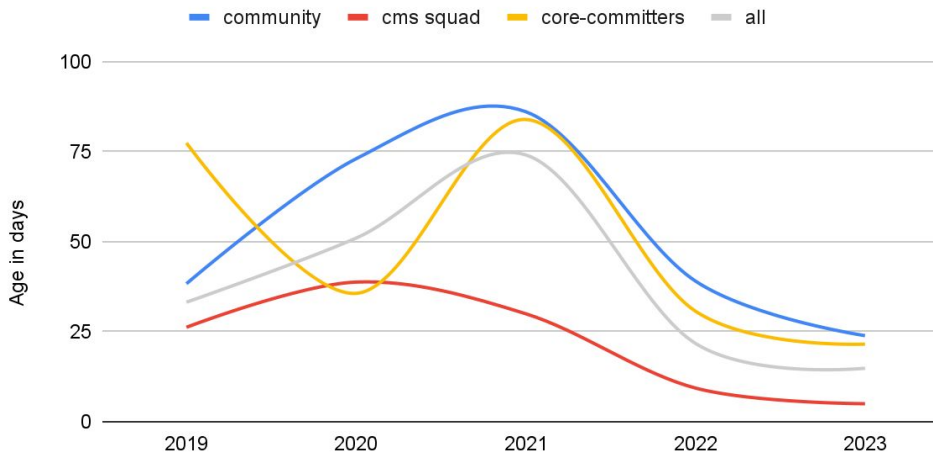
Created date, for date ranges from 2018-09-04 to 2023-09-03 (inclusive)

Pull requests still open by creator type

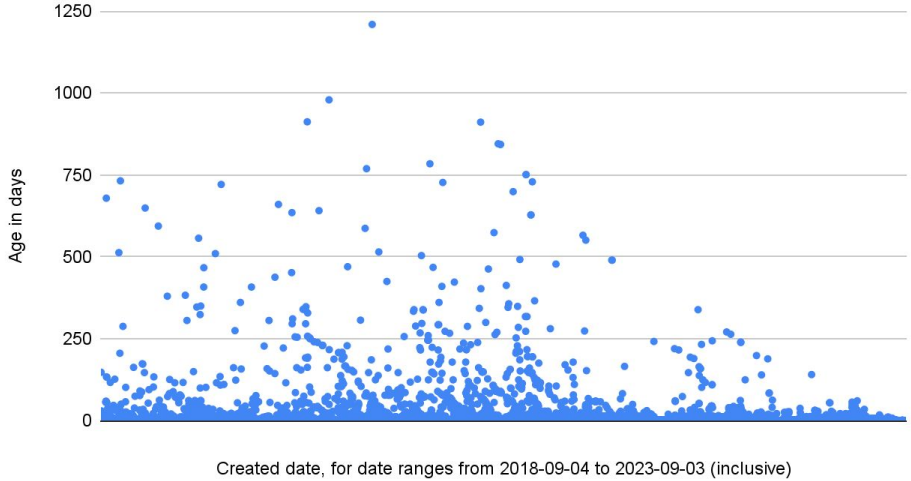


Created date, for date ranges from 2018-09-04 to 2023-09-03 (inclusive)

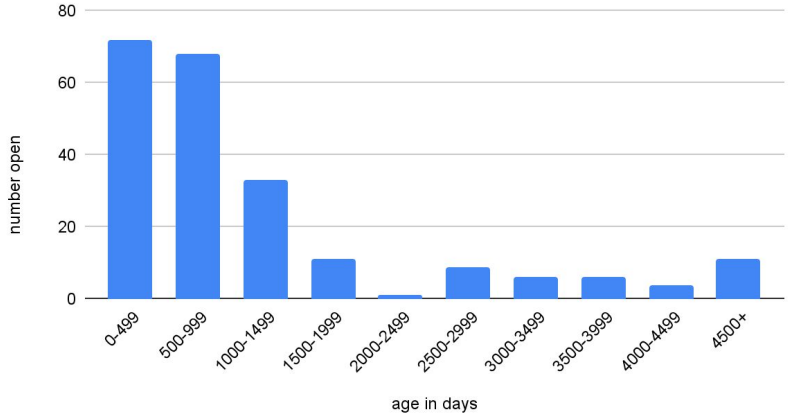
Average age of merged pull requests, by year



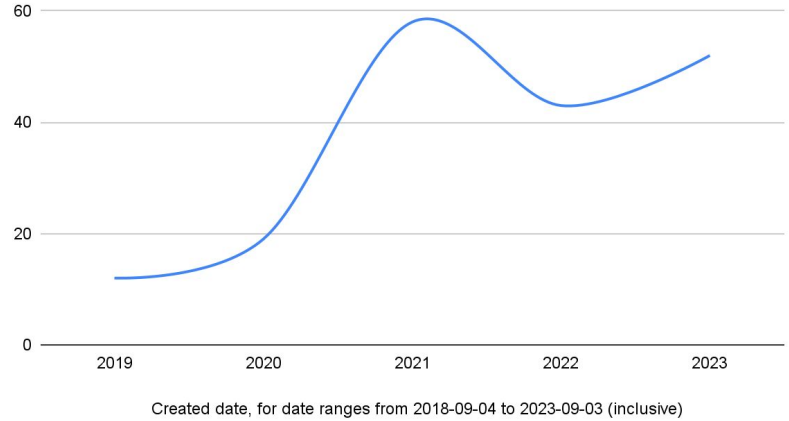
Age of merged pull requests in days



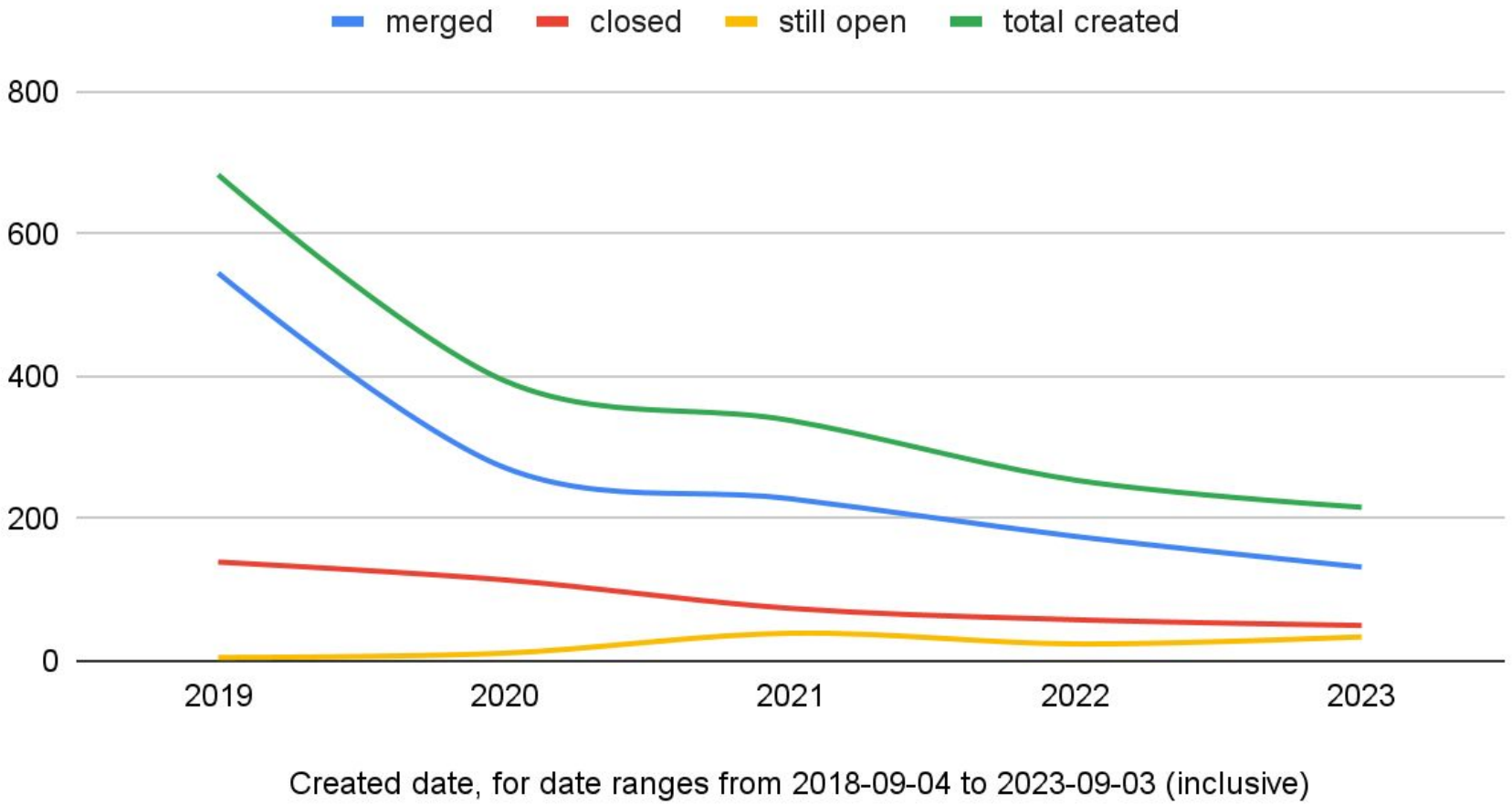
Age of open pull requests



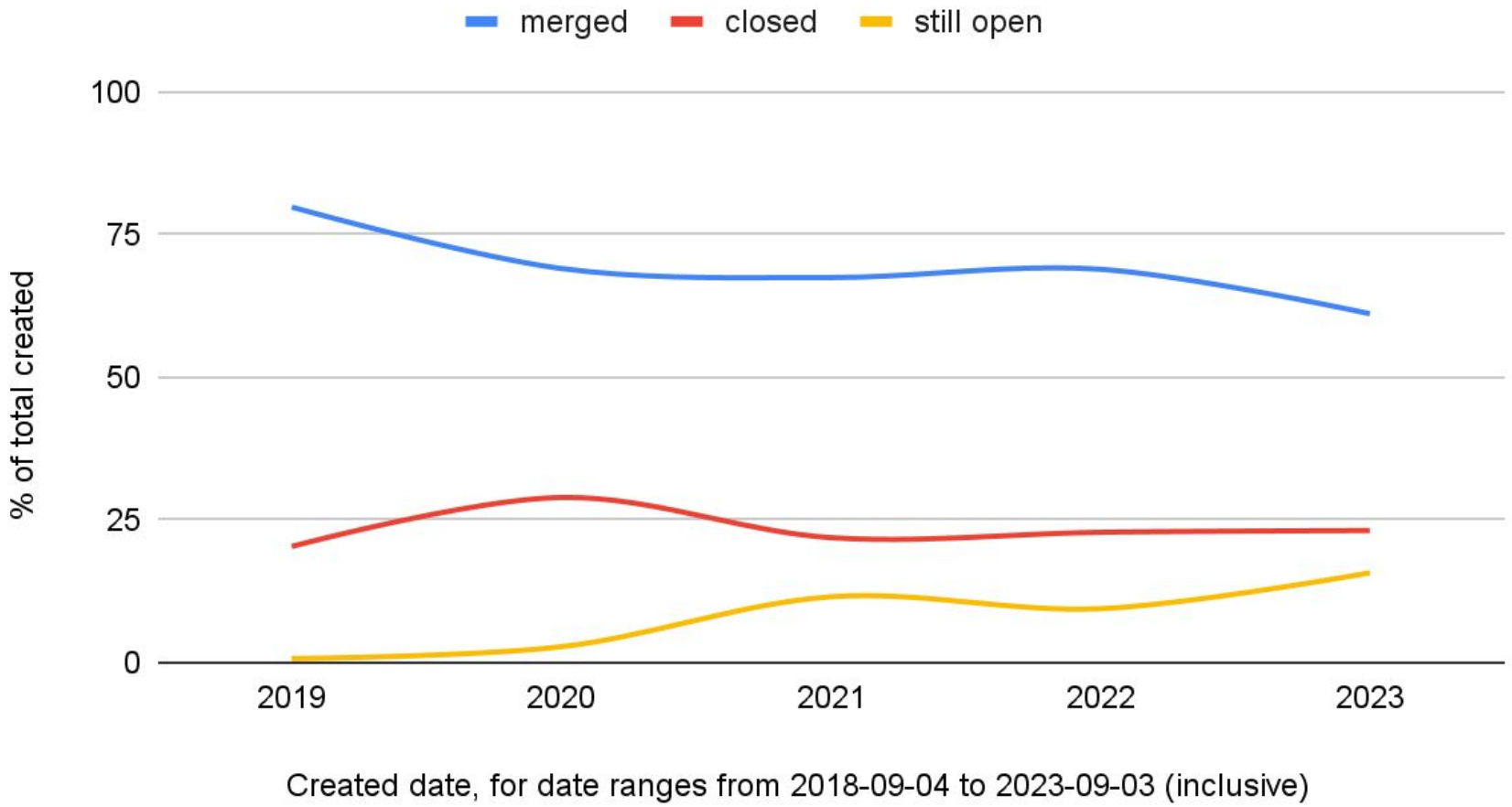
Pull requests still open



Pull requests created by community members



Pull requests created by the community by % of total created



“Definitely one of the things that has kept me moving on the PRs is the feedback … **momentum** is really important in getting things committed.”

Andrew Paxley

Silverstripe CMS

We’re looking to do better

- Proposal for new community contributor roles under review
  - “Refiner” - make sure issues and PRs have enough information
  - “Reviewer” - review and merge pull requests
- Proposal for how we deal with stale issues/PRs pre-draft
- Templates for Github issues/PRs in backlog
- ??? What else? Recommendations are welcome

Send suggestions through to community@silverstripe.org, create a forum post, or message me on slack

Silverstripe CMS

How *you* can contribute

How to contribute to the open source Silverstripe CMS ecosystem

So... how *can* you contribute?

And yes, I will be taking you through how to do most of these

- Update documentation
- Provide translations/localisations
- Report bugs
- Fix bugs
- Implement/improve features
- Provide new modules
- Maintain a non-supported module

Update documentation

- Add new documentation
  - for currently-undocumented features
  - for poorly documented features
- Fix incorrect or misleading docs
- Fix typos, syntax errors, etc

Out of scope for now:

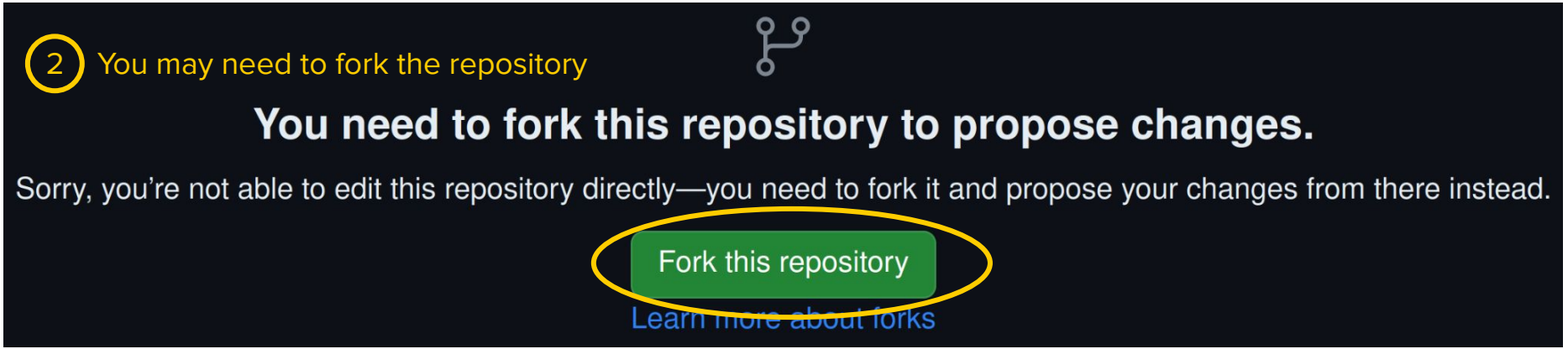
- The lessons
- Information Architecture (i.e. rearranging the docs)

Let’s see how to update docs

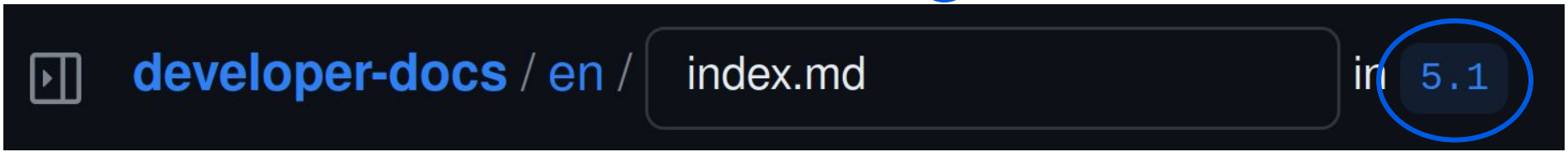
Update documentation - directly on GitHub

1 Click “Edit on GitHub” at the bottom of the documentation page

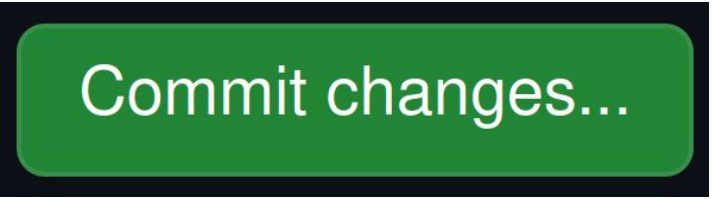
2 You may need to fork the repository



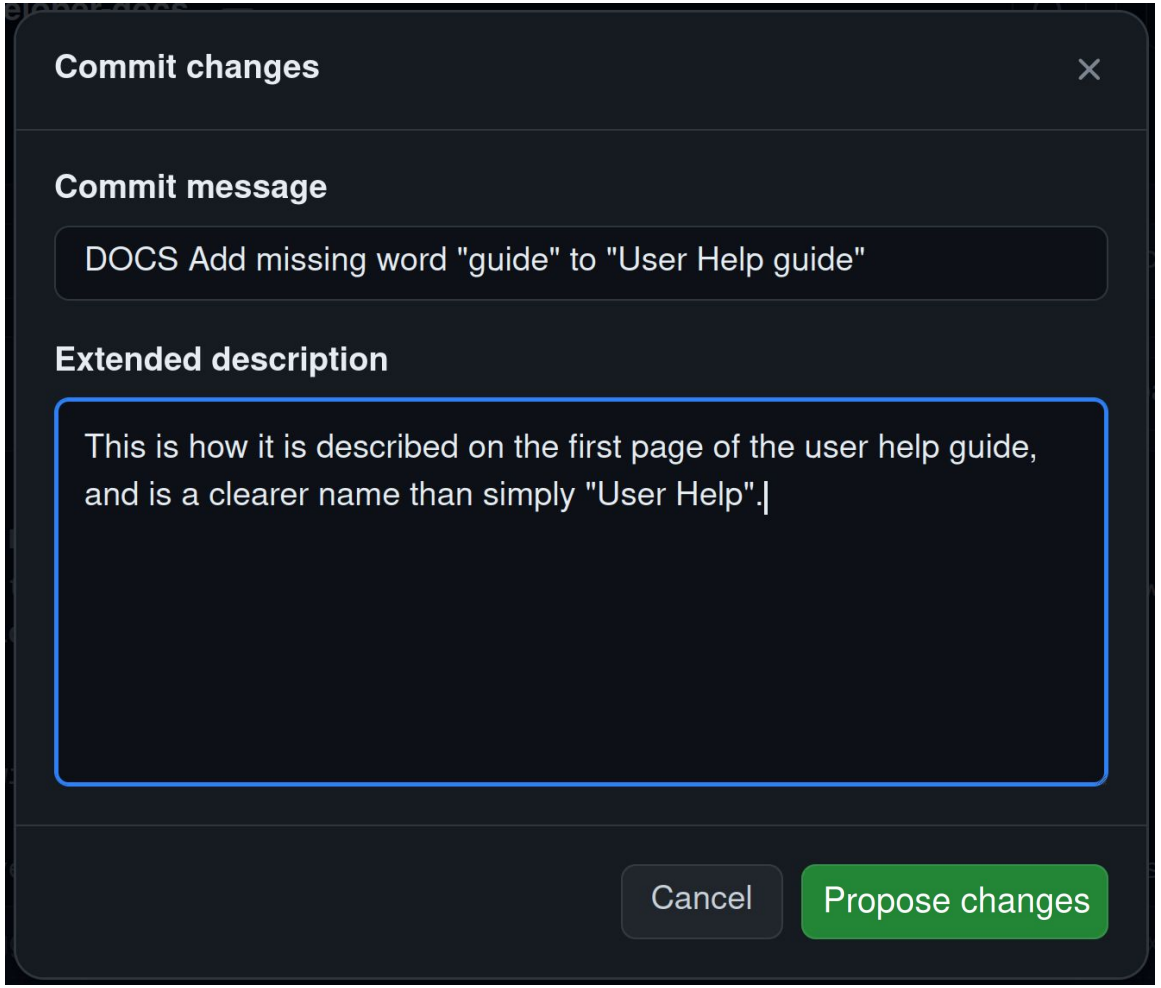
3 Take note of what branch you’re editing

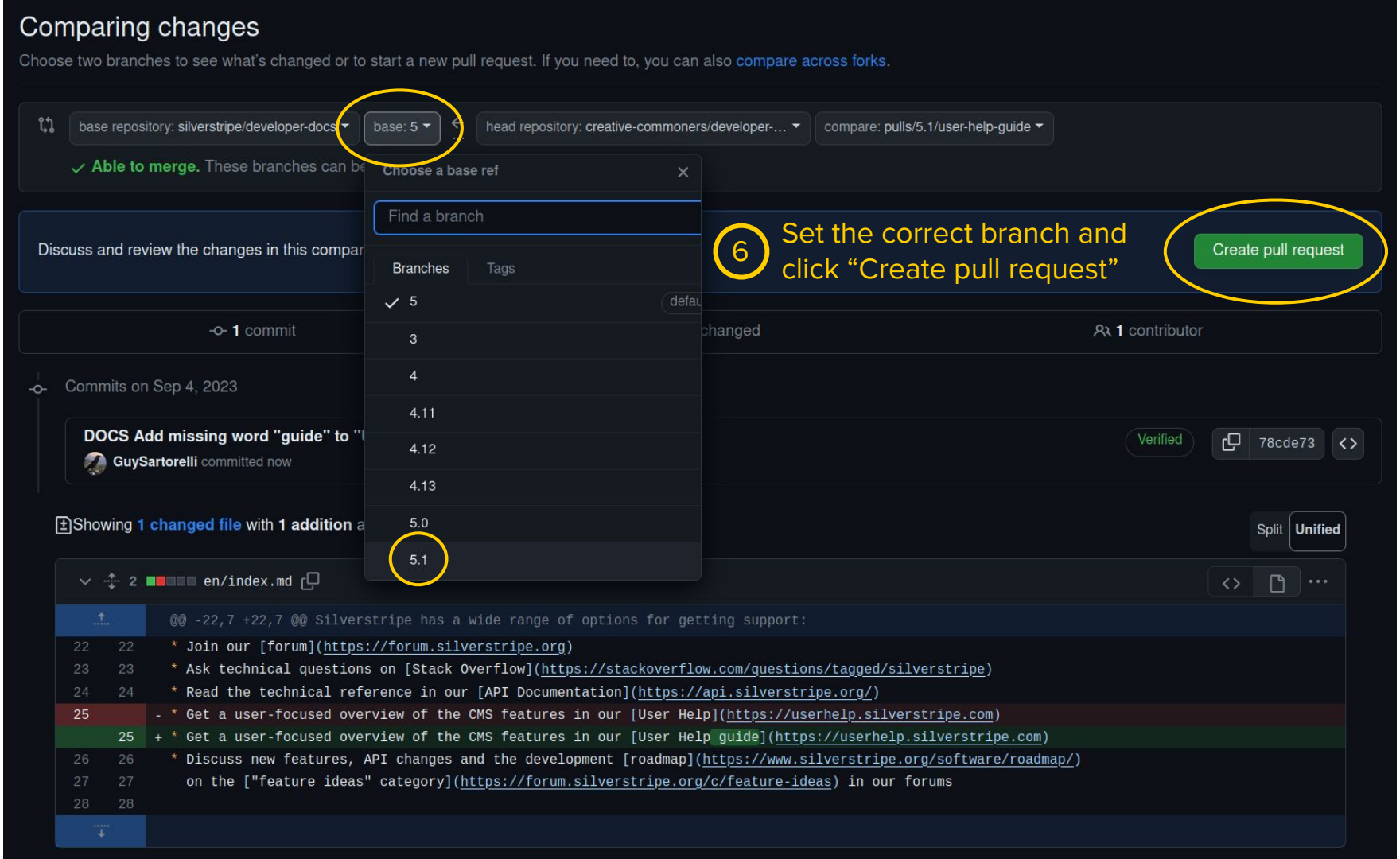


4 Click “Commit changes”



5 Write an appropriate commit message, prefixed with “DOCS” and click “Propose changes”




Comparing changes
Choose two branches to see what's changed or to start a new pull request. If you need to, you can also compare across forks.
base repository: silverstripe/developer-docs
base: 5
head repository: creative-commoners/developer-...
compare: pulls/5.1/user-help-guide
Able to merge. These branches can be
Choose a base ref
Find a branch
Branches
Tags
5
3
4
4.11
4.12
4.13
5.0
5.1
Discuss and review the changes in this compar
6
Set the correct branch and click “Create pull request”
Create pull request
1 commit
changed
1 contributor
Commits on Sep 4, 2023
DOCS Add missing word "guide" to "
GuySartorelli committed now
Verified
78cde73
Showing 1 changed file with 1 addition a
Split
Unified
2
en/index.md
@@ -22,7 +22,7 @@ Silverstripe has a wide range of options for getting support:
* Join our [forum](https://forum.silverstripe.org)
* Ask technical questions on [Stack Overflow](https://stackoverflow.com/questions/tagged/silverstripe)
* Read the technical reference in our [API Documentation](https://api.silverstripe.org/)
- * Get a user-focused overview of the CMS features in our [User Help](https://userhelp.silverstripe.com)
+ * Get a user-focused overview of the CMS features in our [User Help guide](https://userhelp.silverstripe.com)
* Discuss new features, API changes and the development [roadmap](https://www.silverstripe.org/software/roadmap/)
on the ["feature ideas" category](https://forum.silverstripe.org/c/feature-ideas) in our forums

7 Double check commit message and click “Create pull request”

DOCS Add missing word "guide" to "User Help guide"

Write Preview

This is how it is described on the first page of the user help guide, and is a clearer name than simply "User Help".

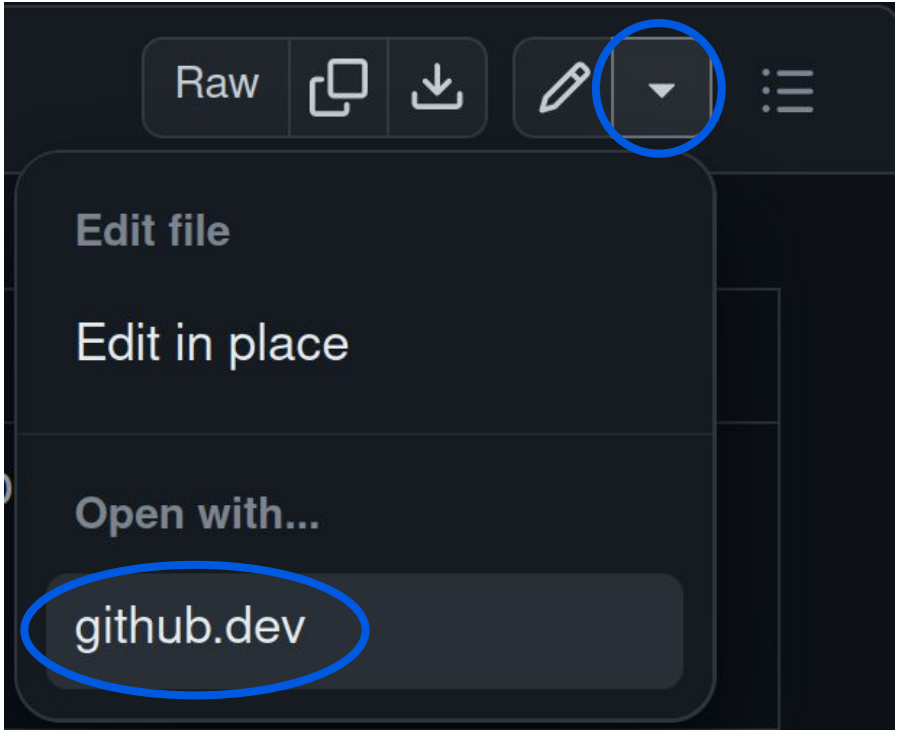
Attach files by dragging & dropping, selecting or pasting them.

Create pull request

What if the change spans multiple pages?

Update documentation - with github.dev

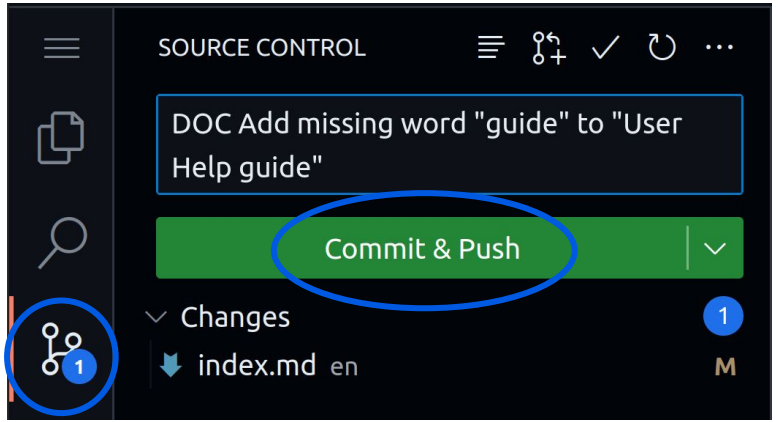
After creating your fork...



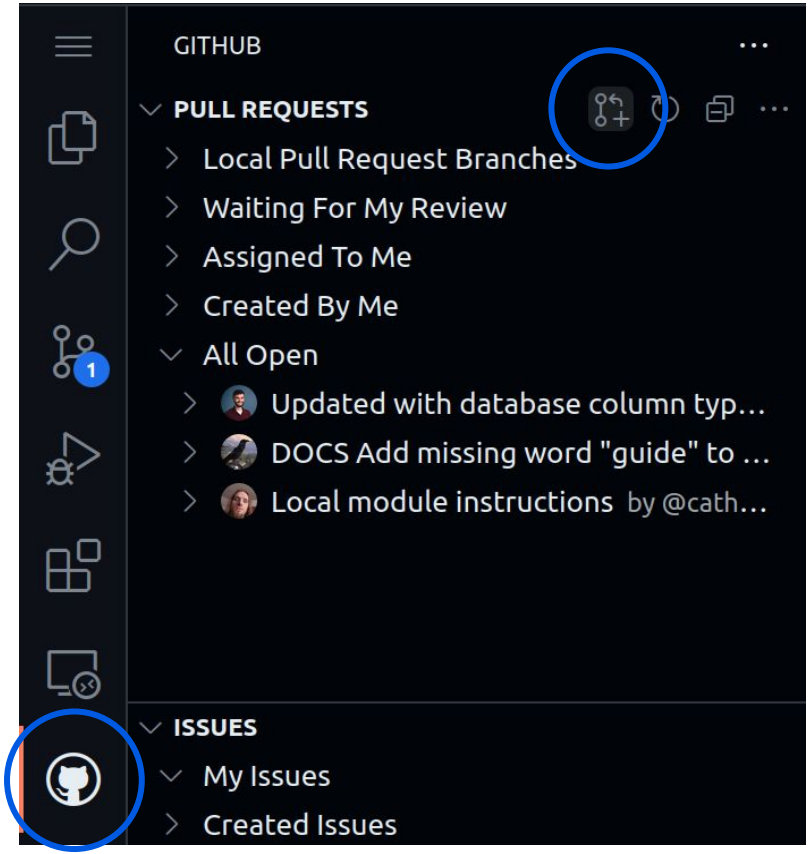
1. When viewing a file, click the arrow next to the edit button, then click “github.dev”

2. Make your changes

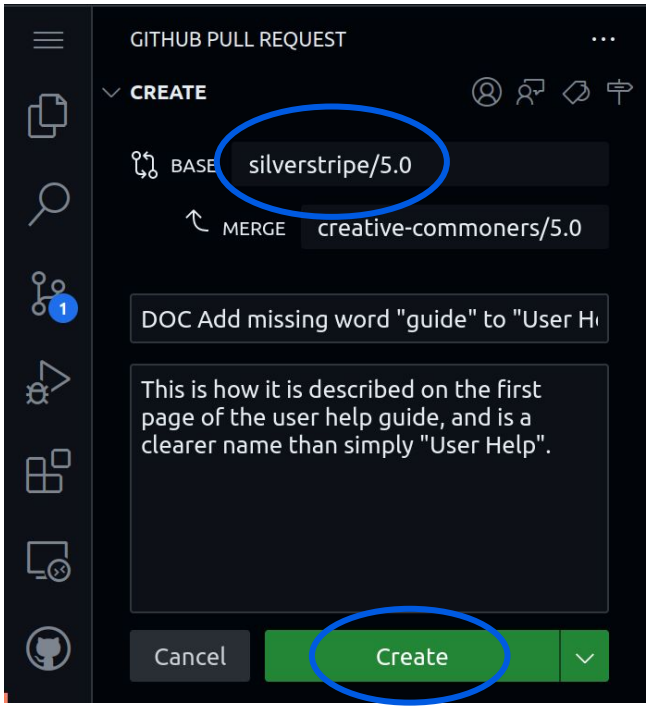
3. Click the source control button, add your commit message, and “Commit & Push”



4 Click the GitHub button, then click create new pull request



5 Make sure to target the correct branch



6 Update the PR name and description

7 Click “Create”

Provide translations/localisations

Silverstripe CMS is used by thousands of content authors and digital agencies around the world.

There are almost 150 contributors who have provided translations for up to 89 languages for core and supported modules - but the work is far from complete

https://**explore**.transifex.com/silverstripe/ to see the status of translations

https://**app**.transifex.com/silverstripe/ to contribute translations

Report bugs

- Rule out customisations first
- Look for existing issues
- Include as much information as you can
- Include steps to reproduce from a fresh installation
    - Be really specific. Don't just say "create a page" - take us through the process step-by-step
- List the module version you found the bug on
- Refer to the docs for more info

Silverstripe CMS

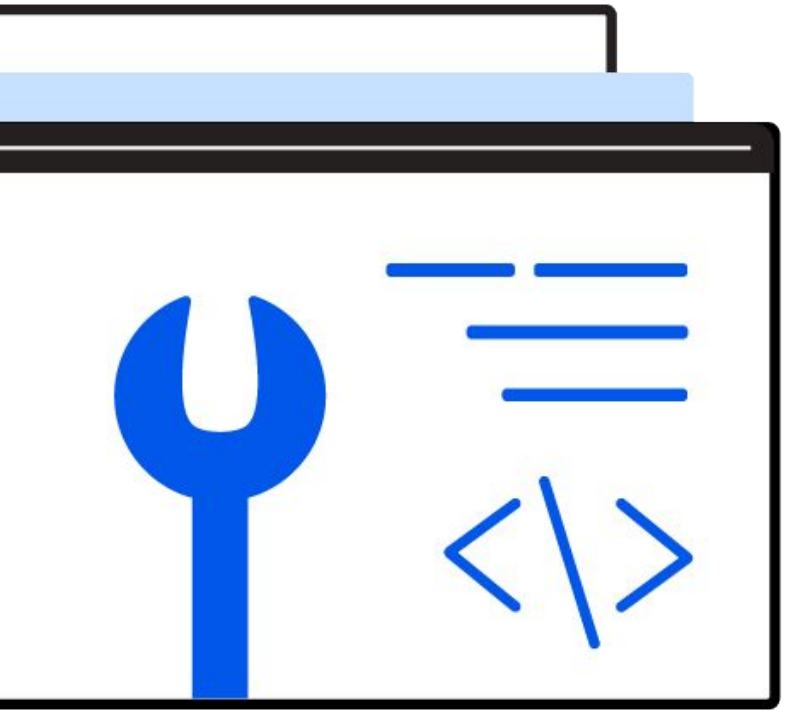
Fix bugs

- Especially for bugs you have reported
- Target the correct branch
  - CMS 4.13 or latest minor release
- Follow the contributing code docs
  - There's a handy checklist there!
- Prefix your commit message with "FIX"
- Link to the issue your PR is fixing
  - If there isn't one, *create one first*
  - Link back to your PR *from* the issue, too
- Include tests, if you can

Some of the following slides reference “DDEV”

https://ddev.readthedocs.io/en/stable/users/quickstart/#silverstripe

Building js/css

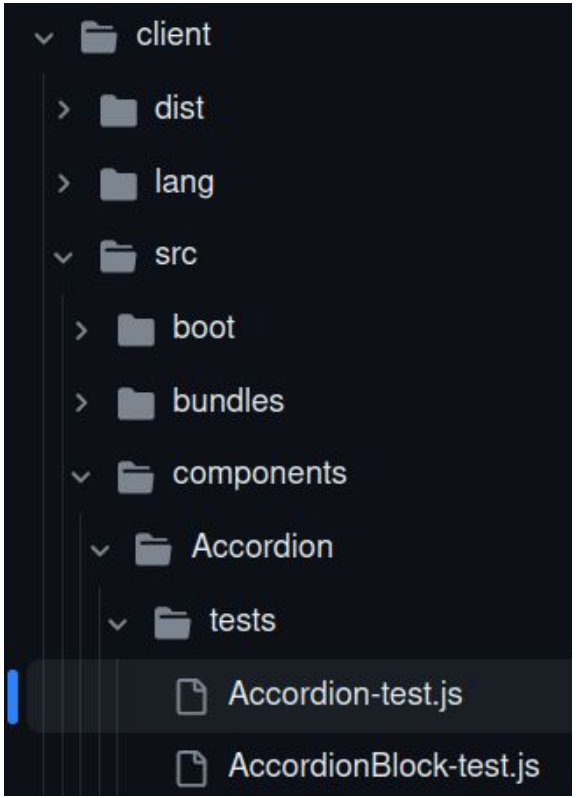


```
# if you're using DDEV, prefix these commands with:
# ddev exec -d /var/www/html/vendor/silverstripe/<module>
# otherwise make sure to install nvm!

cd vendor/silverstripe/<module> # skip this if using DDEV
# make sure you're using the correct version of npm
nvm install
nvm use
npm install -g yarn
# install dependencies
yarn install
# Run yarn install in silverstripe/admin as well!!

# continuously rebuild while you're developing
yarn watch
# one-time (not minified) build while you're developing
yarn dev
# always use "yarn build" before committing your changes
yarn build

# there are other scripts too - check package.json
```

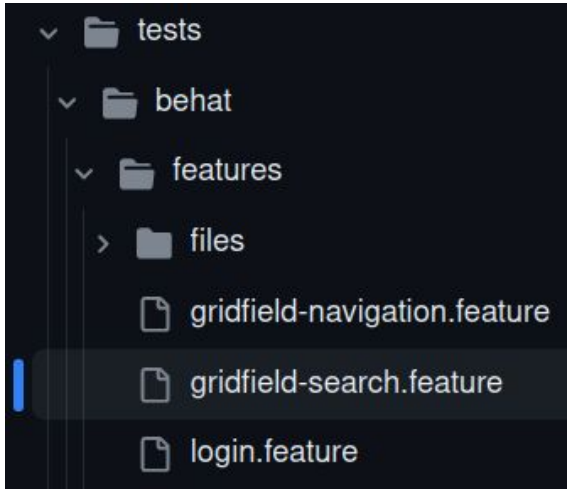
Writing tests

Just copy our homework.

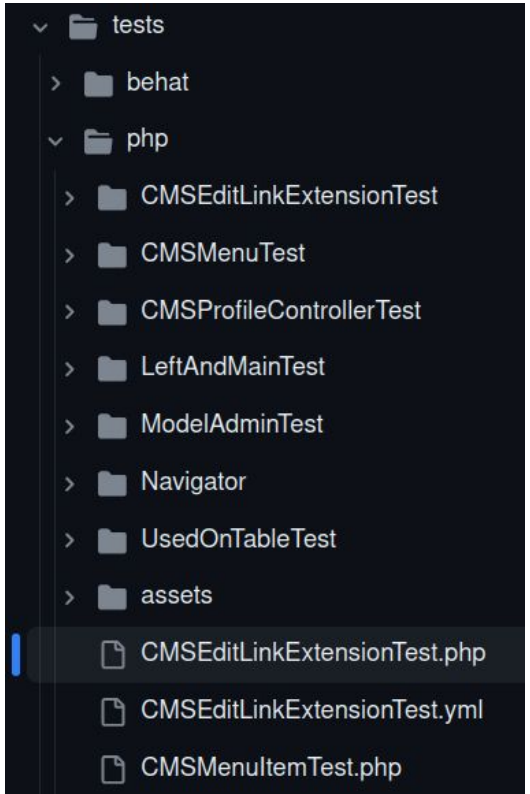
JEST tests for javascript

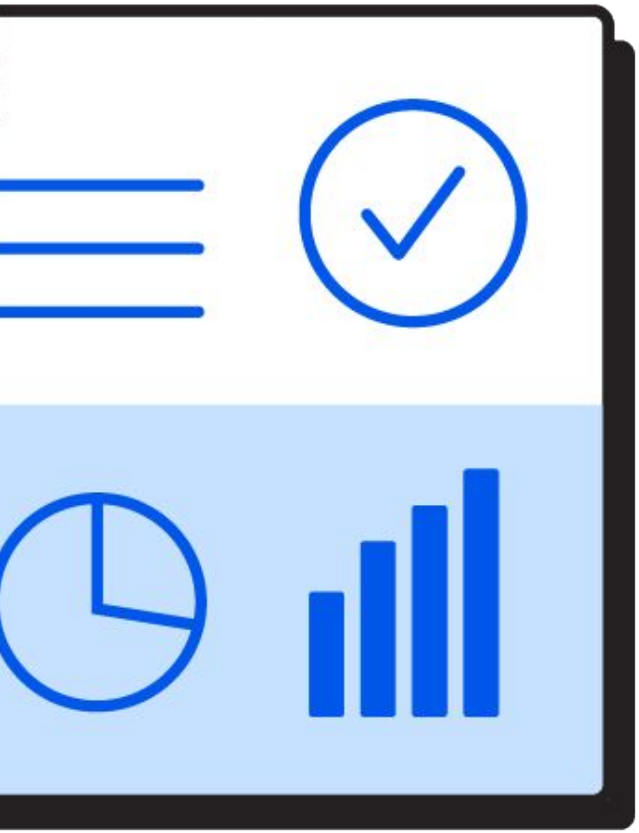


BEHAT behavioural tests



PHP unit/functional tests





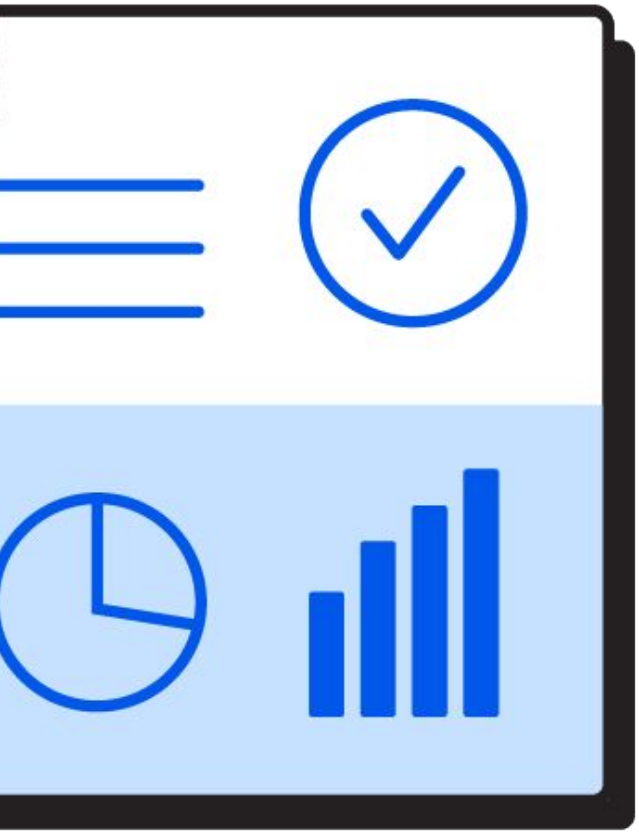
Running tests

- Linting PHP
- PHPUnit tests
- Behat tests

You need some dependencies

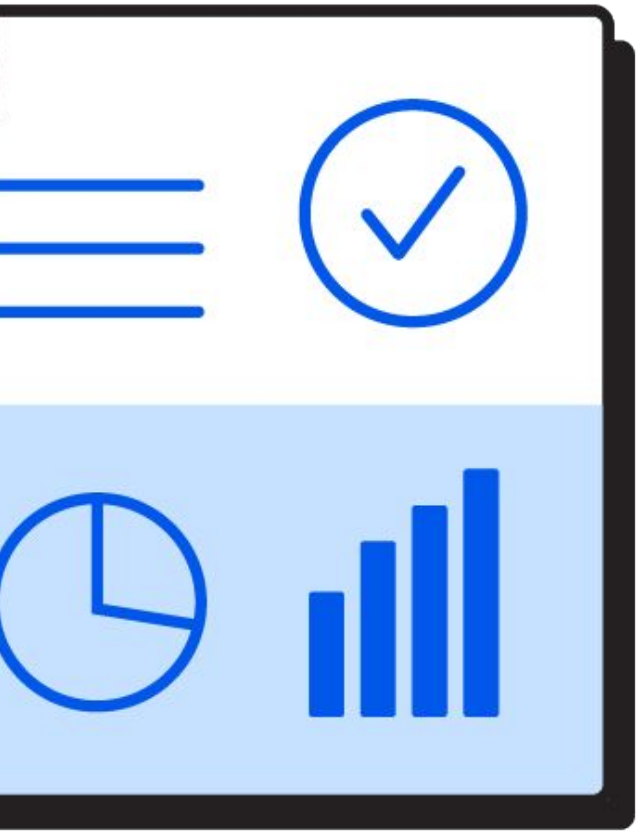
```
# this recipe includes phpcs, phpunit, and behat
composer require --dev silverstripe/recipe-testing
```

For unit and behat tests, your database user needs to have permissions to create new databases.



Running tests - linting PHP

```
MODULE_PATH="vendor/silverstripe/<module>"

# make sure you're using the config that comes with that module
# need to run it for each of /src, /tests, and /_config.php
vendor/bin/phpcs "$MODULE_PATH/<code|src|tests|_config.php>"
--standard="$MODULE_PATH/phpcs.xml.dist"

# DDEV is a little simpler - just run this once
ddev exec -d "/var/www/html/$MODULE_PATH" phpcs <src|code> tests
_config.php
```

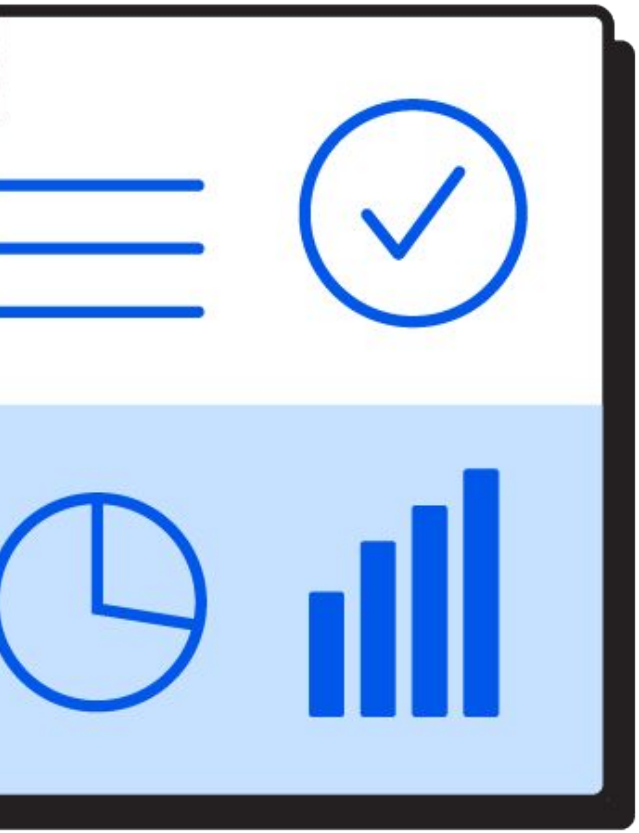


Running tests - PHPUnit

Your database user needs to have permissions to create new databases.

If you're using DDEV, set your *SS_DATABASE_USERNAME* and *SS_DATABASE_PASSWORD* to "root"

```
MODULE_PATH="vendor/silverstripe/<module>"

# running phpunit tests natively
vendor/bin/phpunit "$MODULE_PATH/<path/to/test>.php"
# running phpunit tests with DDEV
ddev exec -d "/var/www/html/$MODULE_PATH" phpunit <path/to/test>.php

# path/to/test might be e.g. "tests/php/ORM/DataListTest"
```

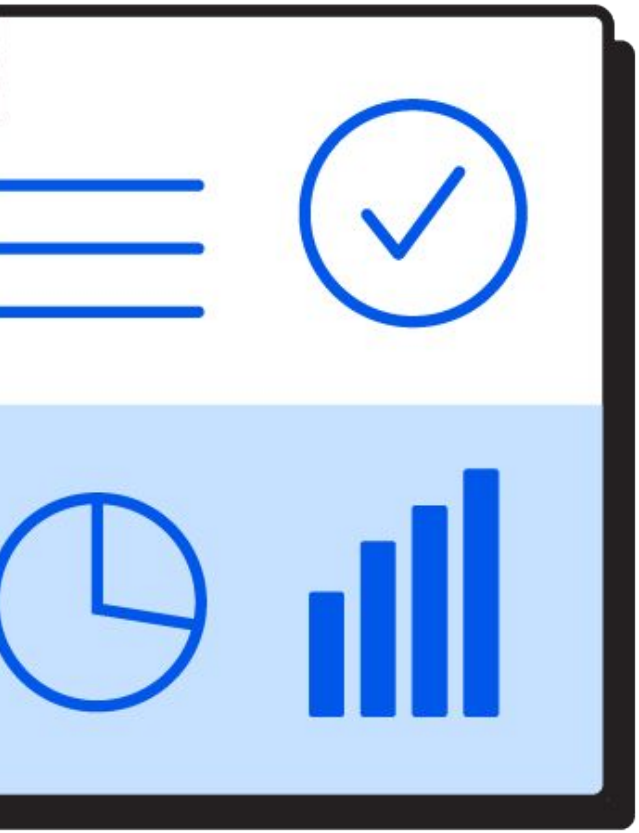


Running tests - Behat

Your database user needs to have permissions to create new databases.

If you're using DDEV, set your *SS_DATABASE_USERNAME* and *SS_DATABASE_PASSWORD* to "root"

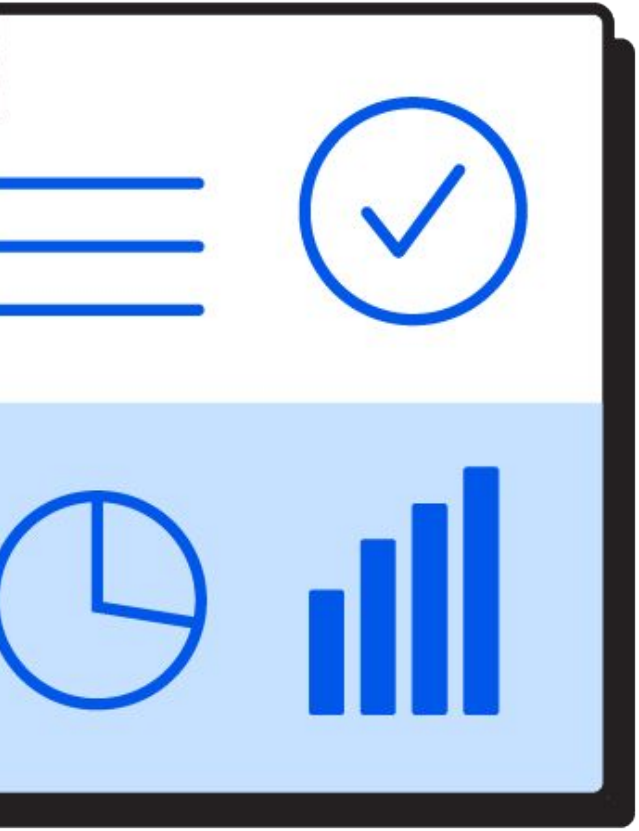
You also need to either install and run chromedriver (or similar) and configure it and your behat/yml correctly, or...



Running tests - Behat

There’s some extra setup for behat with DDEV

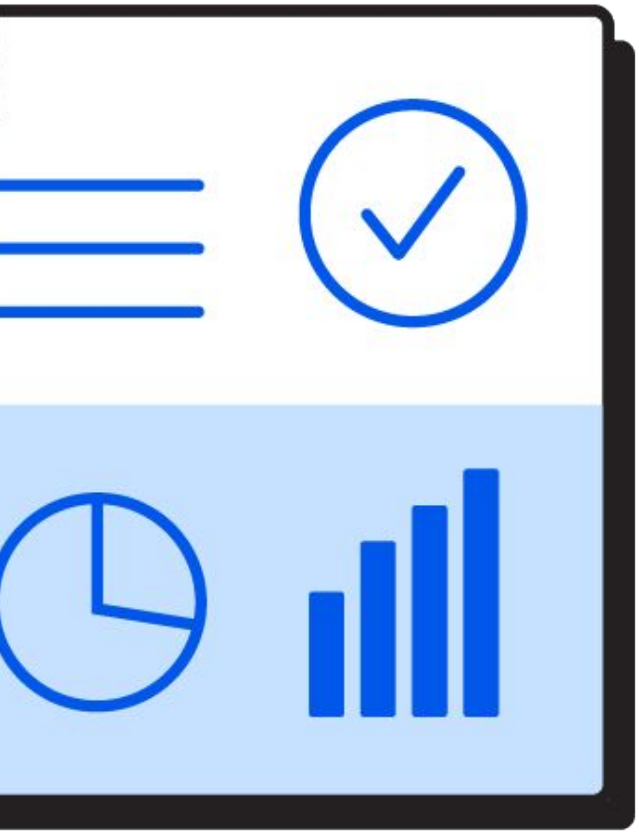
```
# get the selenium2 php library
ddev composer require --dev behat/mink-selenium2-driver
# get the required docker setup into your DDEV project
ddev get ddev/ddev-selenium-standalone-chrome
# restart your local environment
ddev restart
```



Running tests - Behat

Update your behat.yml config (see DDEV docs)

```
default:
  suites: []
  extensions:
+     Behat\MinkExtension:
+       base url: http://web
+       selenium2:
+         wd host: http://selenium-chrome:4444/wd/hub
+         capabilities:
+           chrome:
+             switches:
+               - "--disable-gpu"
+               - "--headless"
+               - "--no-sandbox"
+               - "--disable-dev-shm-usage"
-      SilverStripe\BehatExtension\MinkExtension:
-        default_session: facebook_web_driver
-        javascript_session: facebook_web_driver
-        facebook_web_driver:
-          browser: chrome
-          wd host: "http://127.0.0.1:9515" #chromedriver port
-        browser_name: chrome
    SilverStripe\BehatExtension\Extension:
```



Running tests - Behat

To test a specific feature or scenario, add a tag on the line above the “feature” or “scenario” keyword

```
@test-me
Scenario: Bad login
```

```
# running behat tests natively
vendor/bin/behat <module> --tags=<some-tag>
# running behat tests with ddev
ddev exec behat <module> --tags=<some-tag>

# example
ddev exec behat admin --tags=test-me
```

Make your PR successful

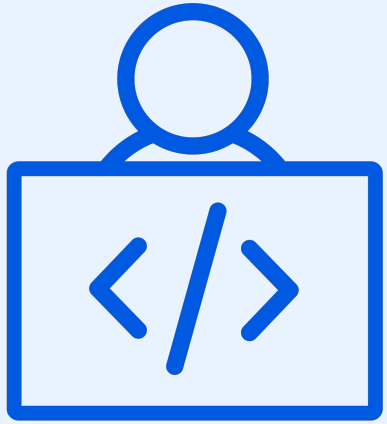
- Link your pull request to an issue (make one if you have to)
- Link to your pull request *from* that issue
- Explain your implementation
- Include appropriate test coverage
- Respond to comments quickly (keep up momentum)
- If you fight back against a requested change, provide a clear reason why
    - Bonus points for showing precedent in the codebase

Implement/improve features?

- Things you're rebuilding all the time
- Barriers you're working around a lot
- Improve partially-implemented features
- Quality of life improvements

BUT discuss non-trivial features in a GitHub issue first - it could save you a lot of effort.

When you're read to raise a PR, read and follow *all* of the information in the Contributing Code documentation.



Not every feature belongs in core!

Implement modules

Wait a minute… hasn’t someone covered this one already?

10:45

Creating and Extending modules

James Cocker, Purple Spider Web Design, UK

Silverstripe CMS

Maintain a non-supported module

For **non-supported** modules in the “silverstripe” GitHub organisation, YOU can be a maintainer!

Email community@silverstripe.org if you are keen to help maintain a module that is not commercially supported.

Silverstripe CMS

Silverstripe CMS

Contributions FAQ

But really it’s mostly about pull requests

How do I report a security vulnerability?

For security vulnerabilities in a **core or supported module**, email security@silverstripe.org

For anything else, contact the maintainer(s) privately

- Check for security policies
- Contact the maintainer(s) directly if you can
- As a last resort, create a public issue asking for a way to contact maintainer(s) - DO NOT publicly disclose the vulnerability

I've got a working development environment - how do I start working on my PR?

--prefer-source is the magic sauce

```
# reinstall the module - but this time with git history
composer reinstall <org/module> --prefer-source

# check out the branch your PR will target
git checkout 5.0
# create a new branch for your PR
git checkout -b <your-pr-branch-name>

# when you're ready to push, add your fork and push to it
git remote add pr <fork-url>
git push pr <your-pr-branch-name>

# clean up after yourself by reinstalling the module
composer reinstall <org/module>
```

When do I need to write tests?

You should add a new test if:

- You are introducing a new feature or behaviour
- You are modifying a feature with pre-existing test coverage
- You are fixing a bug (especially a regression)

You should modify existing tests if:

- You have changed behaviour that was being tested
- Existing tests are failing because they are testing the wrong thing

When do I *not* need to write tests?

We try to be pretty lenient. We might merge your pull request without tests if:

- You've given it an honest attempt
- There's a low chance of regressions
- It's a fairly simple code change
- Reproduction steps for the original issue are clear

You obviously also don't need to write tests for documentation pull requests.

The reviewer has asked a question and I don’t know the answer. What should I say?

If you didn’t understand what they’re asking, ask them to rephrase their question.

If you did understand:

- Do your best to find an answer
- Explain what you have done to try to answer the question
- Explain why you can’t answer

Someone requested changes but I don’t have time to do them. What do I do?

Be open and honest about your time commitments.

If the requested changes were simple, someone may take over the pull request for you.

Sometimes your pull request will be closed until someone has time to work on it again.

The target branch for my PR changed and now it shows lots more commits. What do I do?

Either reset commits

```
# show the last commit(s)
git log -1 # take note of the commit hash(es)

# check out the branch your PR is now targetting
git checkout 5.0
git pull
# delete and recreate the LOCAL copy of your PR branch
git branch -D <your-pr-branch-name>
git checkout -b <your-pr-branch-name>

# cherry-pick your commit(s)
git cherry-pick <commit-hash> [more-commit-hashes]
# resolve any conflicts at this stage

# force push your local branch to your fork
git push <your-remote> <your-pr-branch-name> --force-with-lease
```

Or create a new PR, committing your changes on top of the branch your PR is targeting.

When will my pull request be merged?

Short answer:
Hopefully within a month, but realistically there's no set timeframe.

Existing PRs that have been open for a while might stay stale for the time being.

With any luck the new community roles will be implemented sooner rather than later.

“The power of Open Source is the power of the people.”

Philippe Kahn

Thank you!

Silverstripe CMS