

Hacking GitHub

Tips & tricks for better coding skills



~ whoami

{

name: "Eyar Zilberman",

title: "CPO @ Datree",

powerAnimal: "goat"

}



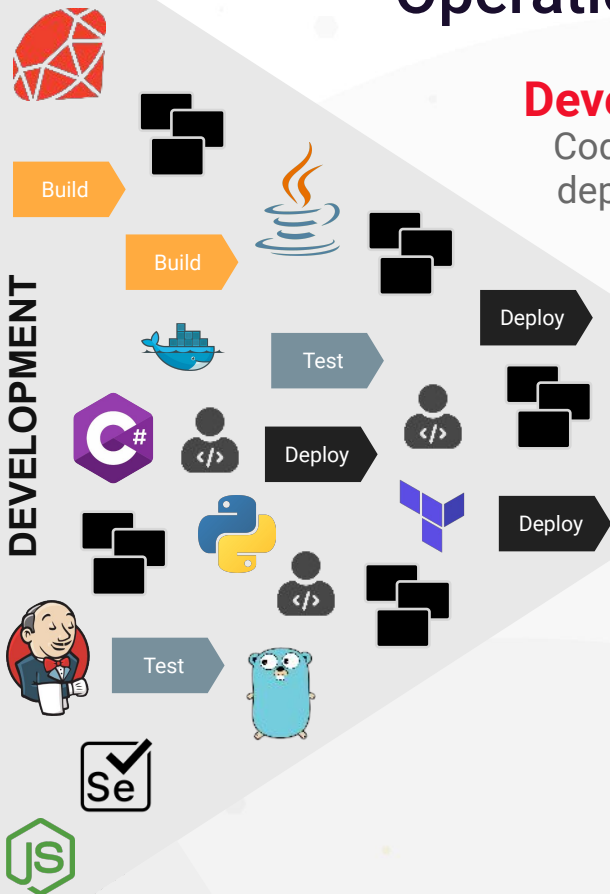
Operation through Git is the new norm

Developers have access to production

Code, build, test, package, release, configure, deploy and rollback your application with Git almost instantly

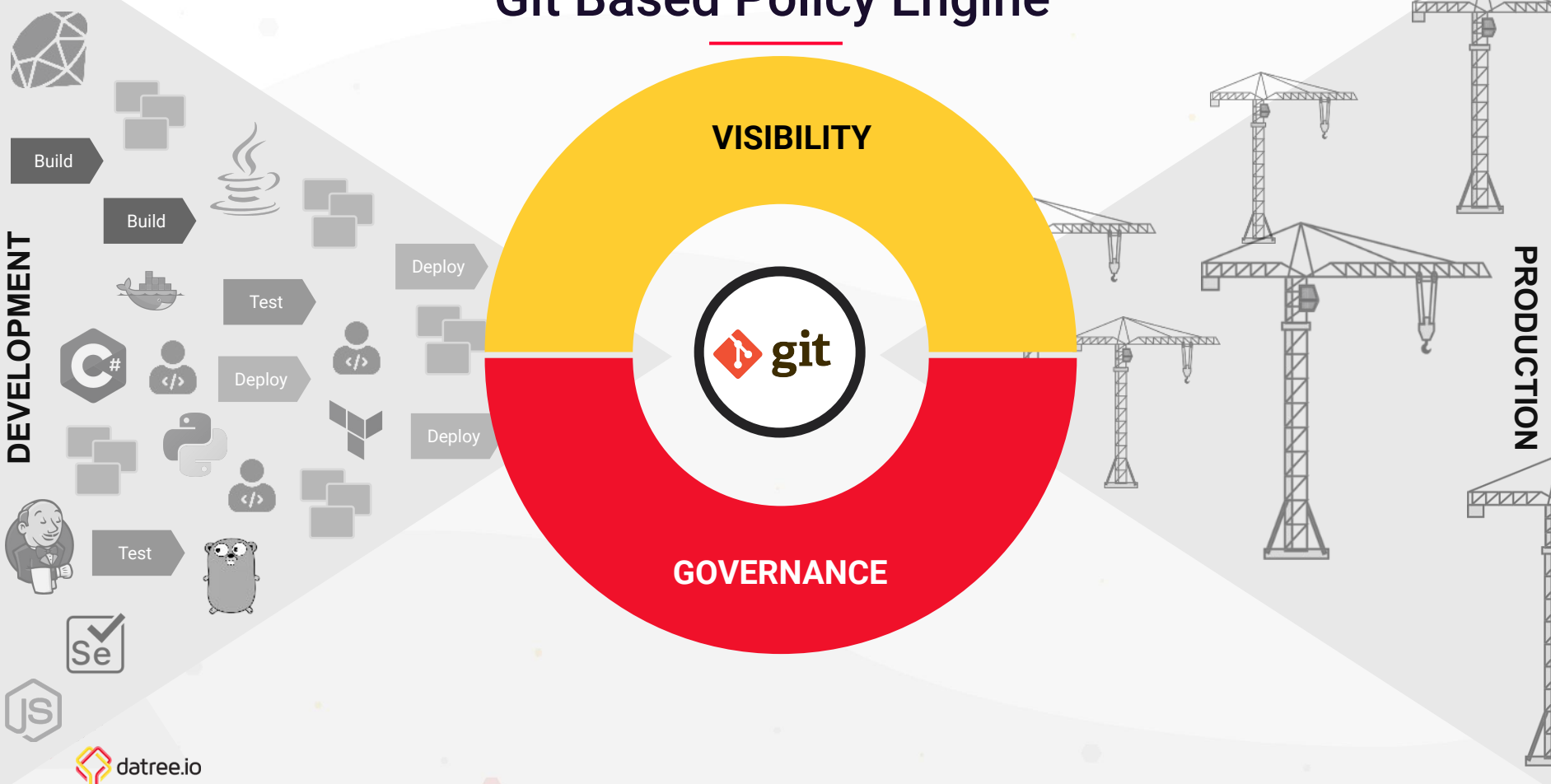
DEVELOPMENT

PRODUCTION



Git is the 87.2% of the market

Git Based Policy Engine



How Datree works

1

SCAN

Identify issues in your code repositories

2

SET

Set policy rules to prevent future occurrences

3

ENFORCE

Automatically run policy checks on pull requests

Enforce Best Practices throughout your Tech Stack



DOCKER



KUBERNETES



SERVERLESS



CI/CD



JENKINS



GIT FLOWS



ANY CUSTOM POLICY...

Example - Docker rules pack:



Policy rules

Docker: LABEL: Maintainer: property should exist

✗ The following properties don't match the required pattern:
• Dockerfile

Docker: USER property should exist

✗ The following properties don't match the required pattern:
• Dockerfile

Docker: RUN: apt: installed packages should have a version

✗ The following properties don't match the required pattern:
• Dockerfile `run: apt-get install -y postgresql-client`

Docker: USER property should not be root

✗ The following properties don't match the required pattern:
• Dockerfile

Docker: FROM: every image should be pulled from datree-docker/frog.io

✗ The following properties don't match the required pattern:
• Dockerfile `from: node:latest`

Docker: FROM: should have a tag and it shouldn't be latest

✗ The following properties don't match the required pattern:
• Dockerfile `from: node:latest`

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The screenshot displays the Datree Smart Policy Management interface. On the left is a dark sidebar with navigation options: Dashboard, POLICY (Reports, Policy Management, Pull Requests, Notifications), and VISIBILITY (Code Components, People, Repositories). The main content area is titled 'Smart Policy Management' and features a search bar and an 'Add Rule' button. Below this is a list of five policy rules, each with a title, tags (SECURITY, DOCKER, KUBERNETES), a status indicator (triangle and checkmark), and a count. The rules are: 1. 'Separate secret credentials from source code' (24 issues, 51 checks, 12 repositories); 2. 'Separate personal config files from source code and other stuff' (96 issues, 21 checks, 88 repositories); 3. 'Separate secret credentials from source code' (87 issues, 33 checks, 51 repositories); 4. 'Ensure a .gitignore file is included in projects' (63 issues, 57 checks, 97 repositories); 5. 'Ensure CODEOWNERS defined in projects' (34 issues, 67 checks, 51 repositories); 6. 'Separate dependencies from source code' (28 issues, 25 checks, 84 repositories). On the right, a detailed view of the 'Separate secret credentials from source code' rule is shown. It includes an 'EDIT' button, an 'ENABLED' toggle, and a description: 'This rule prevents secret files from being included in the repository by excluding them from the source code.' Below this is a 'Repositories' section with a search bar and a list of repositories. The list shows '7 / 20 repositories enabled' and includes a table of repository status: 'arbel/figma-plugins' (PASSED, enabled), 'arbel/figma-plugins' (FAILED, disabled), 'arbel/figma-plugins' (PASSED, disabled), and 'arbel/figma-plugins' (PASSED, enabled). At the bottom, there is a checkbox for 'Enable on new repositories by default'.

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ENFORCE



Automatically run policy checks on pull requests




 **Review required** Add your review
At least 1 approving review is required by reviewers with write access. [Learn more.](#)

 **Some checks were not successful** Hide all checks
1 failing and 1 successful checks

  **Datree Smart Policy** Failing after 5s — Best Practices Verification Required [Details](#)

  **Datree insights** Successful in 6s — datreeio insights events Required [Details](#)

 **Merging is blocked**
Merging can be performed automatically with 1 approving review.

As an administrator, you may still merge this pull request.

▼ You can also open this in [GitHub Desktop](#) or view [command line instructions](#).

1. Tasks lists



elliotbonneville commented 17 minutes ago · edited ▾



- Create first task
- Create second task
- Complete first task
- Complete second task
- ???
- Profit

DAT-123 Update package.json #136

Closed eyarz wants to merge 1 commit into `master` from `eyarz-patch-16`

Conversation 2 Commits 1 Checks 2 Files changed 1



eyarz commented 12 days ago · edited ▾



Description

Please explain the changes you made here.

Checklist

- Code compiles correctly
- Update CHANGELOG on README.md
- Add relevant documentation
- Created tests which fail without the change (if possible)
- All tests passing

- [x] Create first task
- [x] Create second task
- [x] Complete first task
- [] Complete second task
- [] ???
- [] Profit

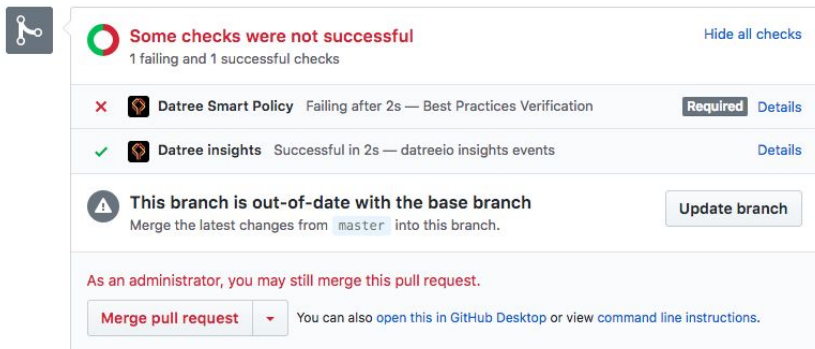
1 Open ✓ 0 Closed

Life moves pretty fast

#6 opened on May 23 by jleaver

3 of 7

2. Keeping feature branch up-to-date



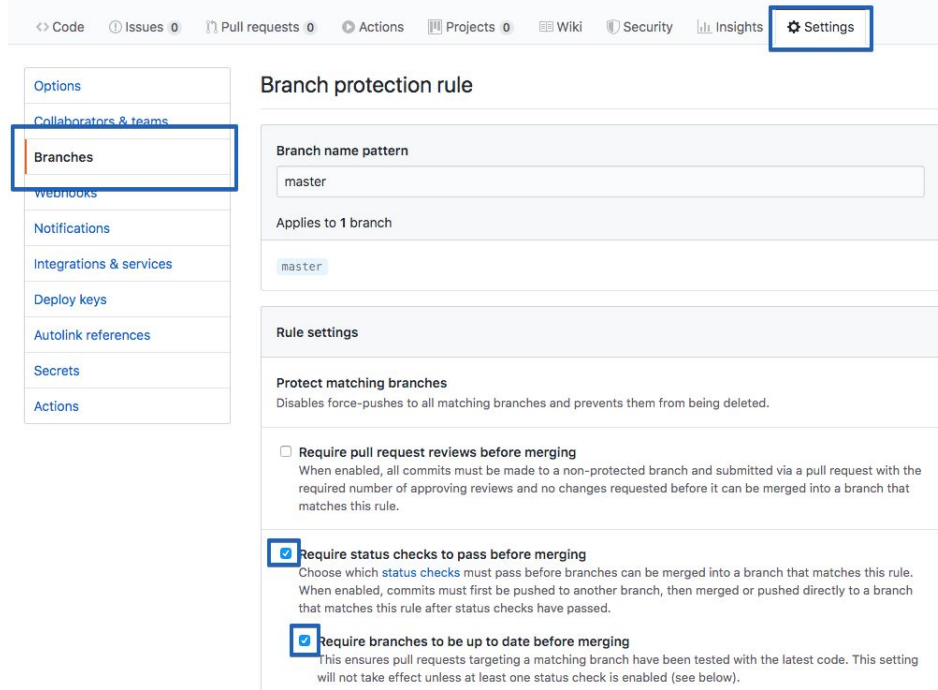
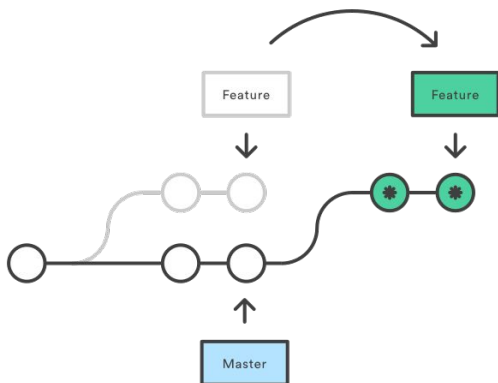
Some checks were not successful
1 failing and 1 successful checks

- Datree Smart Policy** Failing after 2s — Best Practices Verification **Required** Details
- Datree insights** Successful in 2s — datreeio insights events Details

This branch is out-of-date with the base branch
Merge the latest changes from `master` into this branch. [Update branch](#)

As an administrator, you may still merge this pull request.

[Merge pull request](#) You can also open this in [GitHub Desktop](#) or view [command line instructions](#).



Code Issues 0 Pull requests 0 Actions Projects 0 Wiki Security Insights **Settings**

Options
Collaborators & teams
Branches
Webhooks
Notifications
Integrations & services
Deploy keys
Autolink references
Secrets
Actions

Branch protection rule

Branch name pattern
master

Applies to 1 branch
master

Rule settings

Protect matching branches
Disables force-pushes to all matching branches and prevents them from being deleted.

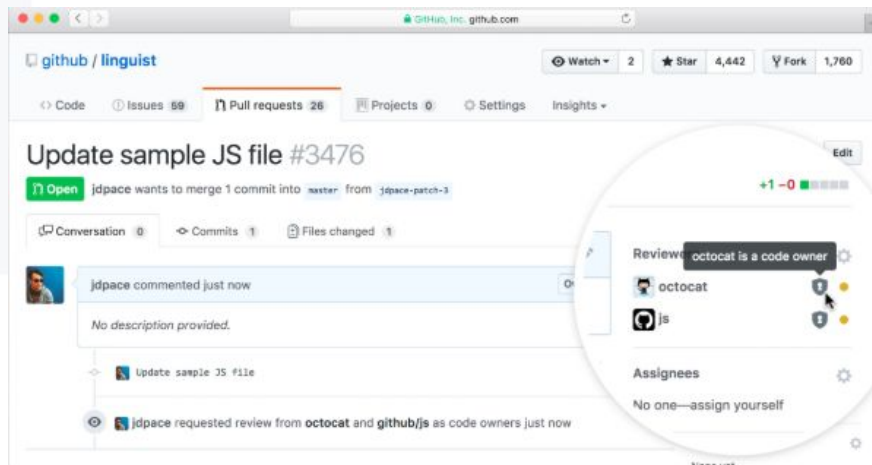
- Require pull request reviews before merging**
When enabled, all commits must be made to a non-protected branch and submitted via a pull request with the required number of approving reviews and no changes requested before it can be merged into a branch that matches this rule.
- Require status checks to pass before merging**
Choose which **status checks** must pass before branches can be merged into a branch that matches this rule. When enabled, commits must first be pushed to another branch, then merged or pushed directly to a branch that matches this rule after status checks have passed.
- Require branches to be up to date before merging**
This ensures pull requests targeting a matching branch have been tested with the latest code. This setting will not take effect unless at least one status check is enabled (see below).

3. Codeowners

```
# Lines starting with '#' are comments.  
# Each line is a file pattern followed by one or more owners.  
  
# These owners will be the default owners for everything in the repo.  
* @defunkt  
  
# Order is important. The last matching pattern has the most precedence.  
# So if a pull request only touches javascript files, only these owners  
# will be requested to review.  
*.js @octocat @github/js  
  
# You can also use email addresses if you prefer.  
docs/* docs@example.com
```

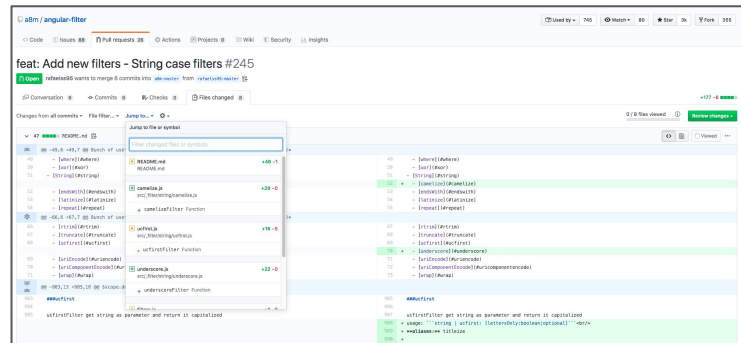
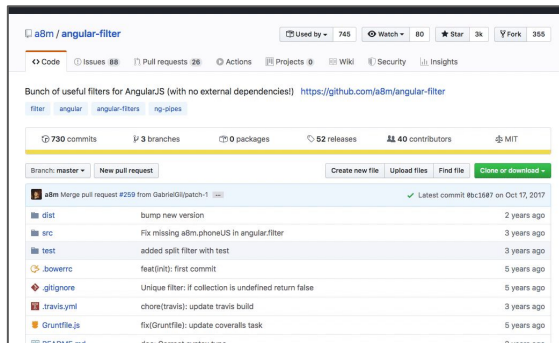
Must be located inside one of the following paths:

- root-dir/
- root-dir/docs/
- root-dir/.github/

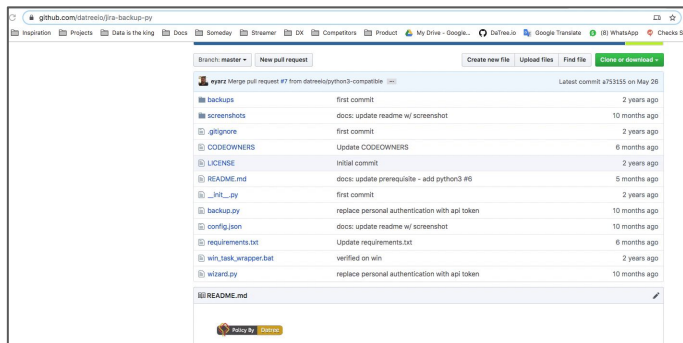


4. Keyboard shortcuts

“T”
File Finder



“Y”
Permalink



<https://github.com/datreeio/jira-backup-py/blob/master/LICENSE>



<https://github.com/datreeio/jira-backup-py/blob/a753155e65cf56f6bdc0a4a228cf534b2f66fb53/LICENSE>

5. Global view of all the PR's

All open PR's where I'm (@eyarz) the author

All open PR's in my org (datreeio)

All open PR's in my org + order by date + filter automatic PR's

The screenshot shows the GitHub Pull Requests interface with the following search filters applied: `is:open is:pr archived:false org:datreeio`. The interface includes tabs for 'Created', 'Assigned', 'Mentioned', and 'Review requests'. Below the filters, a list of 5 open pull requests is displayed, sorted by creation date. The PRs are:

- `datreeio/action2` adding package.json (opened on Jul 31 by shimont)
- `datreeio/action2` Update README.md (opened on Jul 31 by shimont)
- `datreeio/reinvent2018-1` Create README.md (opened on May 1 by eyarz, Review required)
- `datreeio/icecream` adding config data (opened on Mar 28 by shimont, Review required)
- `datreeio/reinvent2018` feat: index.js (opened on Nov 19, 2018 by shimont, Review required)

ProTip! Updated in the last three days: [updated:>2019-11-01](#).

6.a Search queries - “filename”

The `filename` qualifier matches code files with a certain filename. You can also find a file in a repository using the file finder.

Qualifier	Example
<code>filename:FILENAME</code>	filename:linguist matches files named "linguist."
	filename:.vimrc commands matches .vimrc files with the word "commands."
	filename:test_helper path:test language:ruby matches Ruby files named test_helper within the test directory.

6.b Search queries - “path”

You can use the `path` qualifier to search for source code that appears at a specific location in a repository.

Qualifier	Example
<code>path:/</code>	octocat filename:readme path:/ matches readme files with the word "octocat" that are located at the root level of a repository.
<code>path:DIRECTORY</code>	form path:cgi-bin language:perl matches Perl files with the word "form" in a cgi-bin directory, or in any of its subdirectories.
<code>path:PATH/TO/DIRECTORY</code>	console path:app/public language:javascript matches JavaScript files with the word "console" in an app/public directory, or in any of its subdirectories (even if they reside in app/public/js/form-validators).

Search queries - real life use case



password filename:bash_history path:/

Pull requests Issues Marketplace Explore

Repositories	55K
Code	838+
Commits	6M+
Issues	1M
Packages	41
Marketplace	0
Topics	370
Wikis	181K
Users	815

Languages	
Shell	716
Text	20
Markdown	9
Roff	8
PowerShell	5
HTML	3
Java	1
JavaScript	1
XML	1
reStructuredText	1

Showing 840 available code results ⓘ

Sort: Best match ▾

shambhavi24/ansible_homework
[root/.bash_history](#)

```
71 cd ansible_advance_homework
72 TOWER_GUID=3147
73 OSP_GUID=2295
74 OPENTLC_LOGIN=shambhs1-in.ibm.com
75 OPENTLC_PASSWORD=Sh@m2410
...
81 ansible-playbook site-config-tower.yml -e tower_GUID=${TOWER_GUID} -e
osp_GUID=${OSP_GUID} -e opentlc_login=${OPENTLC_LOGIN} -e
path_to_opentlc_key=/root/.ssh/mykey.pem -e param_repo_base=${JQ_REPO_BASE} -e
opentlc_password=${OPENTLC_PASSWORD} -e REGION_NAME=${REGION} -e EMAIL=${RH_MAIL_ID}
-e github_repo=${GITHUB_REPO}
```

Shell Showing the top two matches Last indexed 24 days ago

bigY2K2/everything-from-cs2
[.bash_history](#)

```
84 ll
85 exit
86 ogr2ogr -f MySQL MySQL:thackbarth,host=localhost,user=thackbarth,password= og1cee1E -
-nln MilitaryBase -update -overwrite -lco engine=MYISAMta
...
87 ogr2ogr -f MySQL MySQL:thackbarth,host=localhost,user=thackbarth,password= zeebot123
-nln MilitaryBase -update -overwrite -lco engine=MYISAMta
88 /* This file connects to your MySQL database. */
```

Shell Showing the top two matches Last indexed on Jun 28, 2018

7. Automated security fixes [Beta]

Automated security fixes will attempt to create pull requests to update vulnerable dependencies.

The screenshot shows the GitHub interface for the repository `datreio/aggregator-service`. The navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. The repository name and privacy status (Private) are displayed, along with Watch (3), Star (0), and Fork (0) counts. The Security tab is selected in the navigation menu.

On the left, there is a sidebar with 'Alerts', 'Advisories', and 'Policy' sections. A message indicates the user is in the [Beta] of automated security fixes, with a link to learn more.

The main content area is titled 'Security Alerts' and shows a summary of 4 Open and 0 Closed alerts. Below this, a list of alerts is displayed:

Alert Name	Severity	Created	By	File	Count
sequelize	high severity	10 days ago	by GitHub	package-lock.json	#283
eslint-utils	critical severity	Aug 26, 2019	by GitHub	package-lock.json	
mem	moderate severity	Jul 06, 2019	by GitHub	package-lock.json	
sequelize-cli	moderate severity	Jun 05, 2019	by GitHub	package-lock.json	

At the bottom, a note states: 'GitHub tracks known security vulnerabilities in some dependency manifest files. Learn more about security alerts.'

The footer contains copyright information for 2019 GitHub, Inc., and links for Terms, Privacy, Security, Status, Help, Contact GitHub, Pricing, API, Training, Blog, and About.

8. Probot + GitHub Actions

Closed DAT-124 Update package.json #484
eyarz wants to merge 1 commit into `master` from `eyarz-patch-1`

eyarz changed the title `Update package.json` to `DAT-124 Update package.json` on Feb 17



stale bot commented on Feb 18

This issue has been automatically marked as stale because it has not had recent activity. It will be closed if no further activity occurs. Thank you for your contributions.

stale bot added the `stale` label on Feb 18

stale bot closed this on Feb 20

github-actions bot deleted the `eyarz-patch-1` branch on Feb 20

Probot: <https://github.com/probot/stale>

Action: <https://github.com/eyarz/branch-cleanup-action>

← Thread



Gabriele Petronella
@gabro27

So this just happened:

- a bot found a vulnerability in a dependency
- a bot sent a PR to fix it
- the CI verified the PR
- a bot merged it
- a bot celebrated the merge with a GIF

github.com/buildo/react-c...

The screenshot shows a GitHub pull request thread. At the top, a comment from `dependabot` says "Bumps `mixln-deep` from 1.3.1 to 1.3.2." Below that, a comment from `stale` bot says "This issue has been automatically marked as stale because it has not had recent activity. It will be closed if no further activity occurs. Thank you for your contributions." Then, a comment from `dependabot` says "dependabot added the `dependencies` label 19 days ago". Below that, a comment from `dependabot` says "dependabot force-pushed the `dependabot/npm_and_yarn/mixln-deep-1.3.2` branch from `ef9584` to `cf6ab9` 13 minutes ago". Then, a comment from `mergify` bot says "mergify merged commit `78ae7c1` into `master` 5 minutes ago". At the bottom, a comment from `nemobot` says "nemobot 5 minutes ago" and includes a GIF of a crowd celebrating.

9.a Browser extensions - Octotree

<https://github.com/ovity/octotree>

ovity / octotree

Sponsor Used by 1 Unwatch 372 Unstar 18,098 Fork 1,530

Code Issues 50 Pull requests 3 Projects 0 Security Insights Settings

GitHub code tree on steroids <https://www.octotree.io/> Edit

github chrome firefox opera safari browser-extension Manage topics

776 commits 2 branches 32 releases 59 contributors AGPL-3.0

Branch: v3 New pull request Create new file Upload files Find File Clone or download

buunguyen Refactor code Latest commit 1d613d4 22 hours ago
.github Create FUNDING.yml 3 months ago
dist v3.0.10 23 days ago
docs Update main image 6 months ago
icons Improve styling and icon build 4 years ago
libs Update jstree to get rid of chrome warning 6 months ago
src Refactor code 22 hours ago
.editorconfig Add editorconfig 5 years ago
.eslintrc Refactor code 22 hours ago

Octotree >

9.b Browser extensions - Refined

<https://github.com/sindresorhus/refined-github>

The screenshot shows the GitHub repository page for 'sindresorhus/refined-github'. At the top, the repository name is displayed with a 'Sponsor' button. To the right, there are buttons for 'Watch' (183), 'Star' (10k), and 'Fork' (762). Below this, a navigation bar includes 'Code', 'Issues' (82), 'Pull requests' (6), 'Actions', 'Security', and 'Insights'. The main content area features the text 'Browser extension that simplifies the GitHub interface and adds useful features' and a list of tags: 'chrome-extension', 'github', 'github-extension', 'userstyle', 'firefox-addon', and 'browser-extension'. A statistics bar shows '1,504 commits', '3 branches', '0 packages', '127 releases', '176 contributors', and 'MIT' license. At the bottom, there are buttons for 'Branch: master', 'New pull request', 'Create new file', 'Upload files', 'Find file', and a prominent green 'Clone or download' button.

sindresorhus / refined-github

Sponsor

Watch 183

Star 10k

Fork 762

<> Code

Issues 82

Pull requests 6

Actions

Security

Insights

Browser extension that simplifies the GitHub interface and adds useful features

chrome-extension github github-extension userstyle firefox-addon browser-extension

1,504 commits

3 branches

0 packages

127 releases

176 contributors

MIT

Branch: master

New pull request

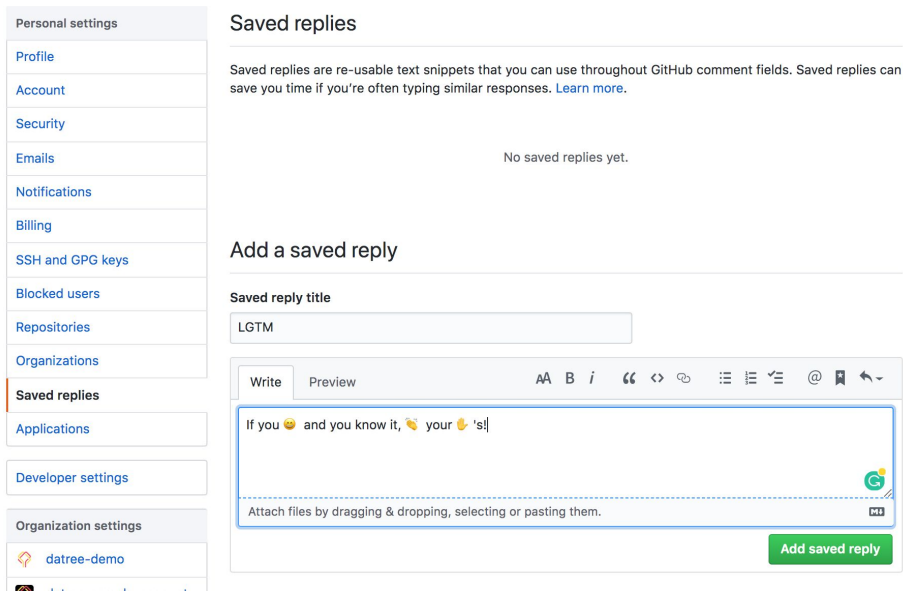
Create new file

Upload files

Find file

Clone or download

10. Saved replies



Personal settings

- Profile
- Account
- Security
- Emails
- Notifications
- Billing
- SSH and GPG keys
- Blocked users
- Repositories
- Organizations
- Saved replies**
- Applications
- Developer settings
- Organization settings
 - datree-demo

Saved replies

Saved replies are re-usable text snippets that you can use throughout GitHub comment fields. Saved replies can save you time if you're often typing similar responses. [Learn more.](#)

No saved replies yet.

Add a saved reply

Saved reply title

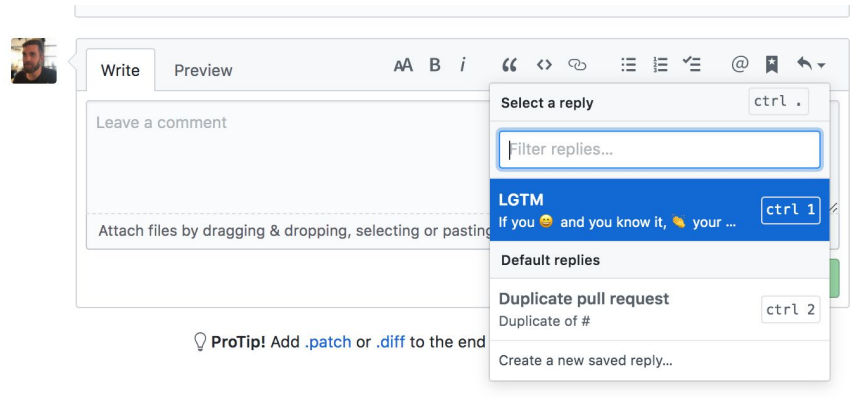
LGTM

Write Preview AA B i “ <> @ 📎 ↩

If you 🙄 and you know it, 🙄 your 🙄's!

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

Add saved reply



Write Preview AA B i “ <> @ 📎 ↩

Leave a comment

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

Select a reply ctrl .

filter replies...

LGTM ctrl 1

If you 🙄 and you know it, 🙄 your ...

Default replies

Duplicate pull request ctrl 2

Duplicate of #

Create a new saved reply...

💡 **ProTip!** Add `.patch` or `.diff` to the end

Thank you!



Email: eyar@datree.io



Twitter: [@eyarzilb](https://twitter.com/eyarzilb)



Github: [/eyarz](https://github.com/eyarz)



Linkedin: [eyar-zilberman](https://www.linkedin.com/company/eyar-zilberman)