

# Table of Contents

---

1. [Introduction](#)
2. [GitHub](#)
  - i. [Ignore Whitespace](#)
  - ii. [Adjust Tab Space](#)
  - iii. [Commit History by Author](#)
  - iv. [Cloning a Repository](#)
  - v. [Compare all Branches to Another Branch](#)
  - vi. [Comparing Branches](#)
  - vii. [Compare Branches across Forked Repositories](#)
  - viii. [Gists](#)
  - ix. [Git.io](#)
  - x. [Keyboard Shortcuts](#)
  - xi. [Line Highlighting in Repositories](#)
  - xii. [Closing Issues via Commit Messages](#)
  - xiii. [Cross-Link Issues](#)
  - xiv. [CI Status on Pull Requests](#)
  - xv. [Syntax Highlighting in Markdown Files](#)
  - xvi. [Emojis](#)
  - xvii. [Images/GIFs](#)
    - i. [Embedding Images in GitHub Wiki](#)
  - xviii. [Quick Quoting](#)
  - xix. [Quick Licensing](#)
  - xx. [Task Lists](#)
    - i. [Task Lists in Markdown Documents](#)
  - xxi. [Relative Links](#)
  - xxii. [Metadata and Plugin Support for GitHub Pages](#)
  - xxiii. [Viewing YAML Metadata in your Documents](#)
  - xxiv. [Rendering Tabular Data](#)
  - xxv. [Diffs](#)
    - i. [Rendered prose Diffs](#)
    - ii. [Diffable Maps](#)
    - iii. [Expanding Context in Diffs](#)
    - iv. [Diff or Patch of Pull Request](#)
    - v. [Rendering and diffing images](#)
  - xxvi. [Hub](#)
  - xxvii. [Decreasing Contributor Friction](#)
  - xxviii. [Contributing Guidelines](#)
  - xxix. [GitHub Resources](#)
    - i. [GitHub Talks](#)
3. [Git](#)
  - i. [Previous Branch](#)
  - ii. [Stripspace](#)
  - iii. [Checking out Pull Requests](#)
  - iv. [Empty Commits :trollface:](#)
  - v. [Styled Git Status](#)
  - vi. [Styled Git Log](#)
  - vii. [Git Query](#)
  - viii. [Merged Branches](#)
  - ix. [Web Server for Browsing Local Repositories](#)
  - x. [Git Configurations](#)
    - i. [Aliases](#)
    - ii. [Auto-Correct](#)
    - iii. [Color](#)

xi. [Git Resources](#)

i. [Git Books](#)

# GitHub Cheat Sheet

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A collection of cool hidden and not so hidden features of Git and GitHub. This cheat sheet was inspired by [Zach Holman's Git and GitHub Secrets](#) talk at Aloha Ruby Conference 2012 ([slides](#)) and his [More Git and GitHub Secrets](#) talk at WDCNZ 2013 ([slides](#)).

Shortlink: <http://git.io/sheet>

Read this in other languages: [English](#), [한국어](#), [日本語](#), [简体中文](#).

## Table of Contents

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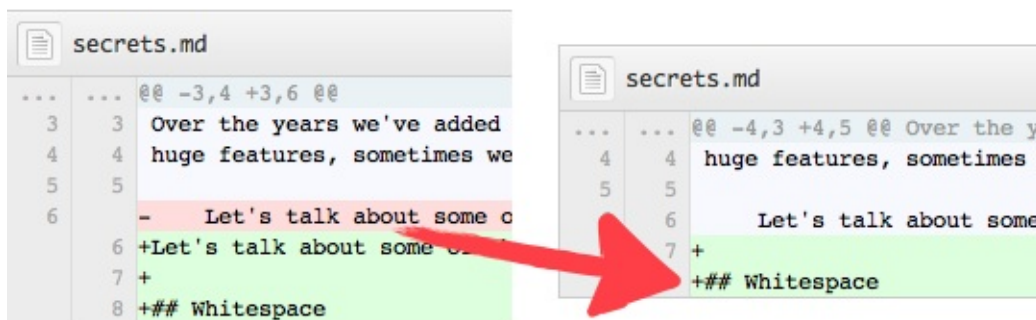
- [GitHub](#)
  - [Ignore Whitespace](#)
  - [Adjust Tab Space](#)
  - [Commit History by Author](#)
  - [Cloning a Repository](#)
  - [Compare all Branches to Another Branch](#)
  - [Comparing Branches](#)
  - [Compare Branches across Forked Repositories](#)
  - [Gists](#)
  - [Git.io](#)
  - [Keyboard Shortcuts](#)
  - [Line Highlighting in Repositories](#)
  - [Closing Issues via Commit Messages](#)
  - [Cross-Link Issues](#)
  - [CI Status on Pull Requests](#)
  - [Syntax Highlighting in Markdown Files](#)
  - [Emojis](#)
  - [Images/GIFs](#)
    - [Embedding Images in GitHub Wiki](#)
  - [Quick Quoting](#)
  - [Quick Licensing](#)
  - [Task Lists](#)
    - [Task Lists in Markdown Documents](#)
  - [Relative Links](#)
  - [Metadata and Plugin Support for GitHub Pages](#)
  - [Viewing YAML Metadata in your Documents](#)
  - [Rendering Tabular Data](#)
  - [Diffs](#)
    - [Rendered prose Diffs](#)
    - [Diffable Maps](#)
    - [Expanding Context in Diffs](#)
    - [Diff or Patch of Pull Request](#)
    - [Rendering and diffing images](#)
  - [Hub](#)
  - [Decreasing Contributor Friction](#)
  - [Contributing Guidelines](#)
  - [GitHub Resources](#)
    - [GitHub Talks](#)
- [Git](#)
  - [Previous Branch](#)
  - [Stripspace](#)
  - [Checking out Pull Requests](#)
  - [Empty Commits :trollface:](#)

- [Styled Git Status](#)
- [Styled Git Log](#)
- [Git Query](#)
- [Merged Branches](#)
- [Web Server for Browsing Local Repositories](#)
- [Git Configurations](#)
  - [Aliases](#)
  - [Auto-Correct](#)
  - [Color](#)
- [Git Resources](#)
  - [Git Books](#)

## GitHub

### Ignore Whitespace

Adding `?w=1` to any diff URL will remove any changes only in whitespace, enabling you to see only that code that has changed.



[Read more about GitHub secrets.](#)

### Adjust Tab Space

Adding `?ts=4` to a diff or file URL will display tab characters as 4 spaces wide instead of the default 8. The number after `ts` can be adjusted to suit your preference. This does not work on Gists, or raw file views.

Here is a Go source file [before](#) adding `?ts=4` :

```

file 69 lines (57 sloc) 1.86 kb
package flint
import (
    "path/filepath"
)
type lintError struct {
    Level int
    Message string
}

```

...and this is [after](#) adding `?ts=4` :

```
file 69 lines (57 sloc) 1.86 kb
1 package flint
2
3 import (
4     "path/filepath"
5 )
6
7 type lintError struct {
8     Level int
9     Message string
10 }
```




## Commit History by Author

To view all commits on a repo by author add `?author=username` to the URL.





<https://github.com/rails/rails/commits/master?author=dhh>

branch: master rails / Commits

Apr 08, 2014

-  **Dont abbreviate that which needs no abbreviation** dhh authored 8 days ago [304d2f19c8](#) [Browse code](#)
-  **Dont encourage aliases now that we have variants** dhh authored 8 days ago [10570cf5b](#) [Browse code](#)
-  **Use short-form for the scaffold render calls and drop the needless test** dhh authored 8 days ago [4b0c8a9467](#) [Browse code](#)

Mar 21, 2014

-  **Update test helper to use latest Digestor API** dhh authored a month ago [9d44b3f886](#) [Browse code](#)
-  **Digestor should just rely on the finder to know about the format and ...** dhh authored a month ago [637bb726ca](#) [Browse code](#)
-  **Log the full path, including variant, that the digestor is trying to ...** dhh authored a month ago [4bca34750d](#) [Browse code](#)
-  **Fix for digestor to consider variants for partials -- this still need...** dhh authored a month ago [06b4f01fca](#) [Browse code](#)

[Read more about the differences between commits views.](#)

## Cloning a Repository

When cloning a repository the `.git` can be left off the end.

```
$ git clone https://github.com/tiimgreen/github-cheat-sheet
```

[Read more about the Git clone command.](#)

## Compare all Branches to Another Branch

If you go to the repo's [Branches](#) page, next to the Commits button:

<https://github.com/{user}/{repo}/branches>

... you would see a list of all branches which are not merged into the main branch.

From here you can access the compare page or delete a branch with a click of a button.

## Branches

Recently Active  Stale

Showing 3 branches not merged into master. [View merged branches.](#)

<b>master</b> ✓ Last updated 3 days ago by <a href="#">mzgol.</a>			Base branch
<b>1.x-master</b> ✓ Last updated 14 hours ago by <a href="#">mzgol.</a>			<a href="#">Compare</a>
<b>delegation</b> ✓ Last updated 4 months ago by <a href="#">timmywil.</a>			<a href="#">Compare</a>
<b>1.9-stable</b> Last updated a year ago by <a href="#">tomfuertes.</a>			<a href="#">Compare</a>

However, often you need to compare branches to a branch other than `master` (e.g. `development`). To do this, append the URL with the name of the branch like so:

```
https://github.com/{user}/{repo}/branches/{branch}
```

## Branches

Recently Active  Stale

Showing 2 branches not merged into 1.x-master. [View merged branches.](#)

<b>1.x-master</b> ✓ Last updated 14 hours ago by <a href="#">mzgol.</a>			Base branch
<b>master</b> ✓ Last updated 3 days ago by <a href="#">mzgol.</a>			<a href="#">Compare</a>
<b>delegation</b> ✓ Last updated 4 months ago by <a href="#">timmywil.</a>			<a href="#">Compare</a>

To see the merged branches, append `?merged=1` to the URL.

## Branches

Recently Active  Stale

Showing 1 branch merged into 1.x-master. [View unmerged branches.](#)

<b>1.x-master</b> ✓ Last updated 14 hours ago by <a href="#">mzgol.</a>			Base branch
<b>1.9-stable</b> Last updated a year ago by <a href="#">tomfuertes.</a>			<a href="#">Compare</a>

This view allows you to delete branches easily from the page, without using the command-line.

## Comparing Branches


To use GitHub to compare branches, change the URL to look like this:

```
https://github.com/user/repo/compare/{range}
```

Where `{range}` = `master...4-1-stable`

For example:

<https://github.com/rails/rails/compare/master...4-1-stable>

 master ... 4-1-stable

Edit

Please review the [guidelines for contributing](#) to this repository.

Create Pull Request

Open a Pull Request for this comparison to discuss and review your changes with others.

?

247 commits

273 files changed




5 comments

36 contributors

Commits

Files changed


Commit comments

Feb 18, 2014		
	Update versions for 4.1.0.rc1	✗ 211ec1f
	Revert "Update versions for 4.1.0.rc1" -- old format for versions! ...	ccddc40
	Update versions for 4.1.0.rc1 (using new format)	✓ 78ba185
	Pointing README links to 4-1-stable [ci skip]	51bd49b
	`rails new --edge` should use the '4-1-stable' branch ...	✓ 24e1fff
	Merge pull request #14100 from chancancode/rails_new_edge ...	✓ e27b6fe

{range} can be changed to things like:

<https://github.com/rails/rails/compare/master@{1.day.ago}...master>  
<https://github.com/rails/rails/compare/master@{2014-10-04}...master>

Dates are in the format YYYY-DD-MM

 master@{2014-10-04} ... master

Edit

130 commits

123 files changed

5 comments

39 contributors

Commits

Files changed

Commit comments

Aug 07, 2013		
	Add tests to ActiveSupport::XmlMini to_tag method	✓ 05d7cde
Nov 17, 2013		
	Fix insertion of records for hmt association with scope, fix #3548	✗ ec09280
Jan 07, 2014		
	Auto-generate stable fixture UUIDs on PostgreSQL. ...	✓ 9330631

...which allows you to see the difference on the master branch up a set time ago or a specified date.

[Read more about comparing commits across time.](#)


## Compare Branches across Forked Repositories

To use GitHub to compare branches across forked repositories, change the URL to look like this:


`https://github.com/user/repo/compare/{foreign-user}:{branch}...{own-branch}`





For example:

`https://github.com/rails/rails/compare/byroot:master...master`

 byroot:master ... rails:master Edit







Please review the [guidelines for contributing](#) to this repository.

 **Create Pull Request** Open a Pull Request for this comparison to discuss and review your changes with others. ?

 **6,802** commits  **309** files changed  **14** comments  **64** contributors




Commits Files changed Commit comments



**This comparison is big! We're only showing the most recent 250 commits**

Apr 02, 2014		
 kastiglione	PostgreSQL, Support for materialized views. [Dave Lee & Yves Senn] ...	✓ def6071
 rajcybage	We can conditional define the tests depending on the adapter or ...	✗ ee36af1
 rafaelfranca	Merge pull request #14565 from rajcybage/conditional_test_cases ...	✓ c82483a
 rwz	DRY AS::SafeBuffer a bit using existing helper	✓ 8482895
 alex88	Fixed small documentation typo ...	✗ 8ae3f24
 rafaelfranca	Merge pull request #14568 from alex88/patch-1 ...	✓ 3bcc51a

## Gists


[Gists](#) are an easy way to work with small bits of code without creating a fully fledged repository.


**GitHub Gist**  Discover Gists  rafalchmiel  

PUBLIC   **tiimgreen / app.rb** Created 4 days ago ⚙ ★ Star 0 🍴 Fork 0

A simple Ruby program.

**Gist Detail**  
[Revisions](#) 1

 **Download Gist**  
Clone this gist  
`https://gist.github.com`  
Embed this gist  
`<script src="https:`  
Link to this gist  
`https://gist.github.com`


 **rafaelchmiel** commented 2 days ago ✎ 🗑

Wow, dat is some engineering.

**Write** **Preview**

Comments are parsed with [GitHub Flavored Markdown](#)

Leave a comment




Add `.pibb` to the end of any Gist URL ([like this](#)) in order to get the *HTML only* version suitable for embedding in any other site.



Gists can be treated as a full repository so they can be cloned like any other:

```
$ git clone https://gist.github.com/tiimgreen/10545817
```



```
tim — bash — 68x12
Tims-MacBook-Pro:~ tim$ git clone https://gist.github.com/10545817
Cloning into '10545817'...
remote: Counting objects: 3, done.
remote: Total 3 (delta 0), reused 0 (delta 0)
Unpacking objects: 100% (3/3), done.
Checking connectivity... done.
Tims-MacBook-Pro:~ tim$
```

[Read more about creating gists.](#)

## Git.io

[Git.io](#) is a simple URL shortener for GitHub.



[Terms of Service](#) [Privacy](#) [Security](#) © 2014 GitHub Inc. All rights reserved.

You can also use it via pure HTTP using Curl:

```
$ curl -i http://git.io -F "url=https://github.com/..."
HTTP/1.1 201 Created
Location: http://git.io/abc123

$ curl -i http://git.io/abc123
HTTP/1.1 302 Found
Location: https://github.com/...
```

[Read more about Git.io.](#)

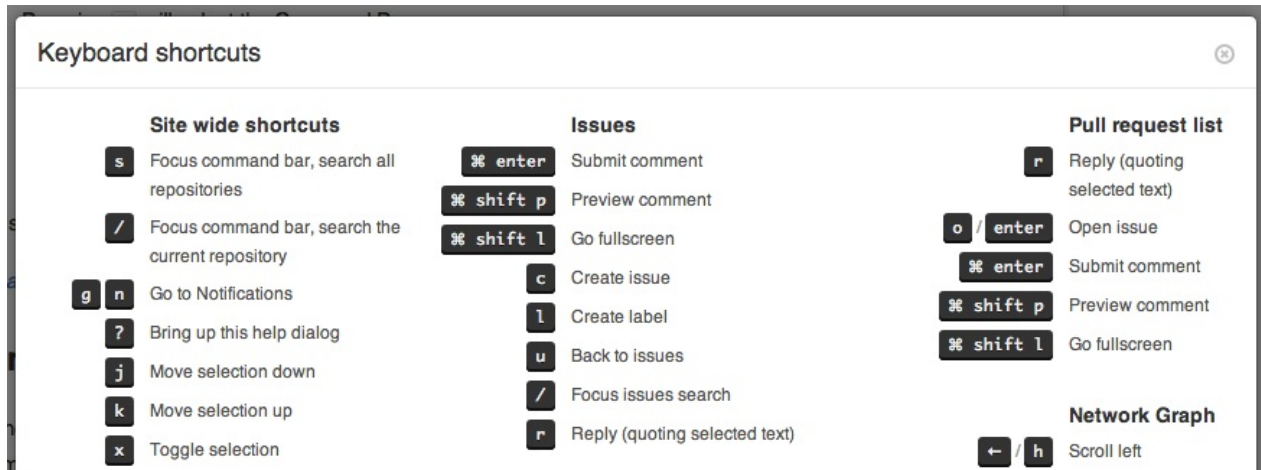
## Keyboard Shortcuts

When on a repository page, keyboard shortcuts allow you to navigate easily.

- Pressing `t` will bring up a file explorer.

- Pressing `w` will bring up the branch selector.
- Pressing `s` will select the Command Bar.
- Pressing `i` will edit labels on existing Issues.
- Pressing `y` **when looking at a file** (e.g. <https://github.com/tiimgreen/github-cheat-sheet/blob/master/README.md>) will change your URL to one which, in effect, freezes the page you are looking at. If this code changes, you will still be able to see what you saw at that current time.

To see all of the shortcuts for the current page press `?`:



[Read more about using the Command Bar.](#)

## Line Highlighting in Repositories

Either adding `#L52` to the end of a code file URL or simply clicking the line number will highlight that line number.

It also works with ranges, e.g. `#L53-L60`, to select ranges, hold `shift` and click two lines:

```
https://github.com/rails/rails/blob/master/activemodel/lib/active_model.rb#L53-L60
```

```

43  autoload :Serialization
44  autoload :TestCase
45  autoload :Translation
46  autoload :Validations
47  autoload :Validator
48
49  eager_autoload do
50    autoload :Errors
51  end
52
53  module Serializers
54    extend ActiveSupport::Autoload
55
56    eager_autoload do
57      autoload :JSON
58      autoload :Xml
59    end
60  end
61
62  def self.eager_load!
63    super
64    ActiveSupport::Serializers.eager_load!
65  end
66  end
67
68  ActiveSupport.on_load(:i18n) do
69    I18n.load_path << File.dirname(__FILE__) + '/active_model/locale/en.yml'
70  end

```

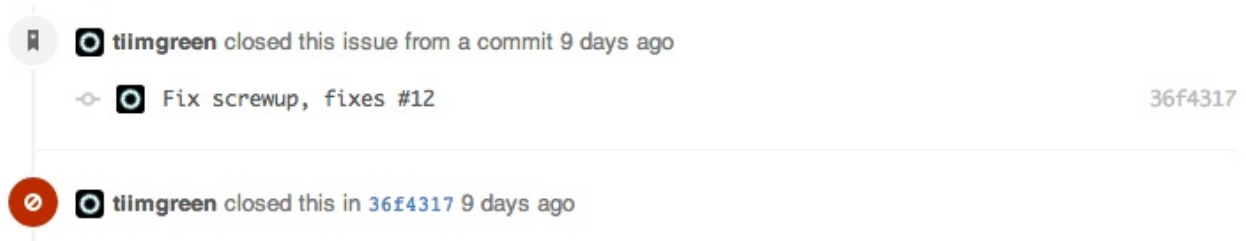
## Closing Issues via Commit Messages

If a particular commit fixes an issue, any of the keywords `fix/fixes/fixed`, `close/closes/closed` OR `resolve/resolves/resolved`,

followed by the issue number, will close the issue once it is committed to the master branch.

```
$ git commit -m "Fix screwup, fixes #12"
```

This closes the issue and references the closing commit.



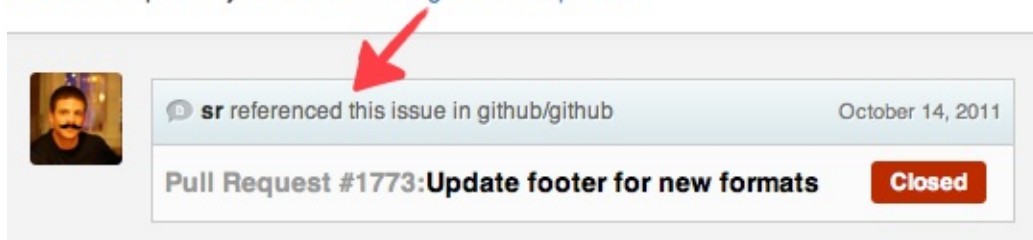
[Read more about closing Issues via commit messages.](#)

## Cross-Link Issues

If you want to link to another issue in the same repository, simple type hash # then the issue number, it will be auto-linked.

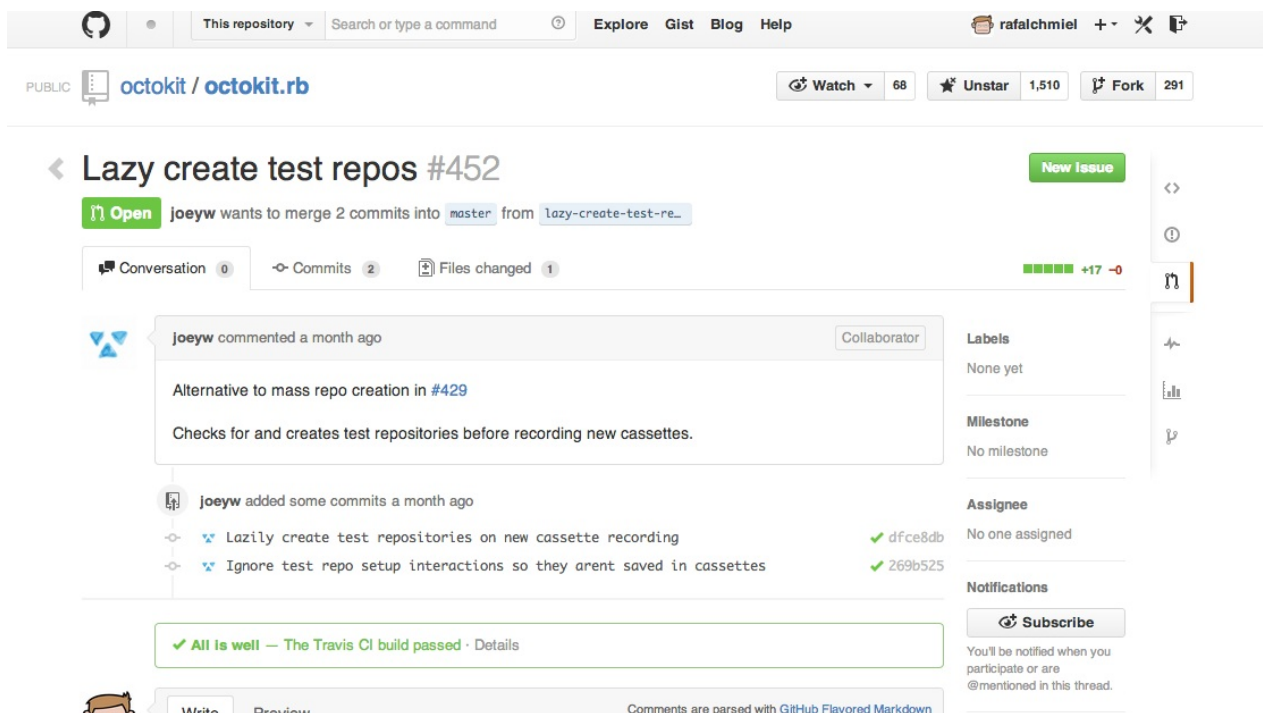
To link to an issue in another repository, `user_name/repo_name#ISSUE_NUMBER` e.g. `tiimgreen/toc#12`.

We should probably handle this with [github/enterprise#59](#)



## CI Status on Pull Requests

If set up correctly, every time you receive a Pull Request, [Travis CI](#) will build that Pull Request just like it would every time you make a new commit. Read more about how to [get started with Travis CI](#).



[Read more about the commit status API.](#)

## Syntax Highlighting in Markdown Files

For example, to syntax highlight Ruby code in your Markdown files write:

```
```ruby
require 'tabbit'
table = Tabbit.new('Name', 'Email')
table.add_row('Tim Green', 'tiimgreen@gmail.com')
puts table.to_s
```
```

This will produce:

```
require 'tabbit'
table = Tabbit.new('Name', 'Email')
table.add_row('Tim Green', 'tiimgreen@gmail.com')
puts table.to_s
```

GitHub uses [Linguist](#) to perform language detection and syntax highlighting. You can find out which keywords are valid by perusing the [languages YAML file](#).

[Read more about GitHub Flavored Markdown.](#)

## Emojis

Emojis can be added to Pull Requests, Issues, commit messages, Markdown files, etc. using `:name_of_emoji:`

```
:smile:
```

Would produce:

```
:smile:
```

The full list of supported Emojis on GitHub can be found at [emoji-cheat-sheet.com](#) or [scotch-io/All-Github-Emoji-Icons](#).

The top 5 used Emojis on GitHub are:

1. `:shipit:` - `:shipit:`
2. `:sparkles:` - `:sparkles:`
3. `:-1:` - `:-1:`
4. `:+1:` - `:+1:`
5. `:clap:` - `:clap:`

## Images/GIFs

Images and GIFs can be added to comments, READMEs etc.:

```
![Alt Text](http://www.sheawong.com/wp-content/uploads/2013/08/keephatin.gif)
```



All images are cached on GitHub, so if your host goes down, the image will remain available.

## Embedding Images in GitHub Wiki


There are multiple ways of embedding images in Wiki pages. There's the standard Markdown syntax (shown above). But there's also a syntax that allows things like specifying the height or width of the image:

```
[[ http://www.sheawong.com/wp-content/uploads/2013/08/keephatin.gif | height = 100px ]]
```

Which produces:

[Home](#) [Pages](#) [History](#) [New Page](#)

## Home (Preview)




### README not found

While a README isn't a required part of an open source project, it is a very good idea to have one. READMEs are a great place to describe your project or add some documentation such as how to install or use your project. You might want to include contact information - if your project becomes popular people will want to help you out. See [GitHub's article on creating repositories](#). See [Tom Preston-Werner's blog post on README driven development](#). Also see the [Wikipedia article on READMEs](#).


## Quick Quoting

When on a comment thread and you want to quote something someone previously said, highlight the text and press `⌘`, this will copy it into your text box in the block-quote format.



jakeboxer commented2 minutes ago

Yep, I really like the second option—It puts exactly the right amount of emphasis on the content.



WritePreview

Comments are parsed with [GitHub Flavored Markdown](#)

Leave a comment

Attach images by dragging & dropping them or [choose an image](#)

Comment

[Read more about quick quoting.](#)

## Quick Licensing

When creating a repository GitHub gives you the options of adding in a pre-made license:

### ☐ Initialize this repository with a README

This will allow you to `git clone` the repository immediately. Skip this step if you have already run `git`

Add .gitignore: **None**

Add a license: **None**

Create repository

#### Licenses

Filter licenses...

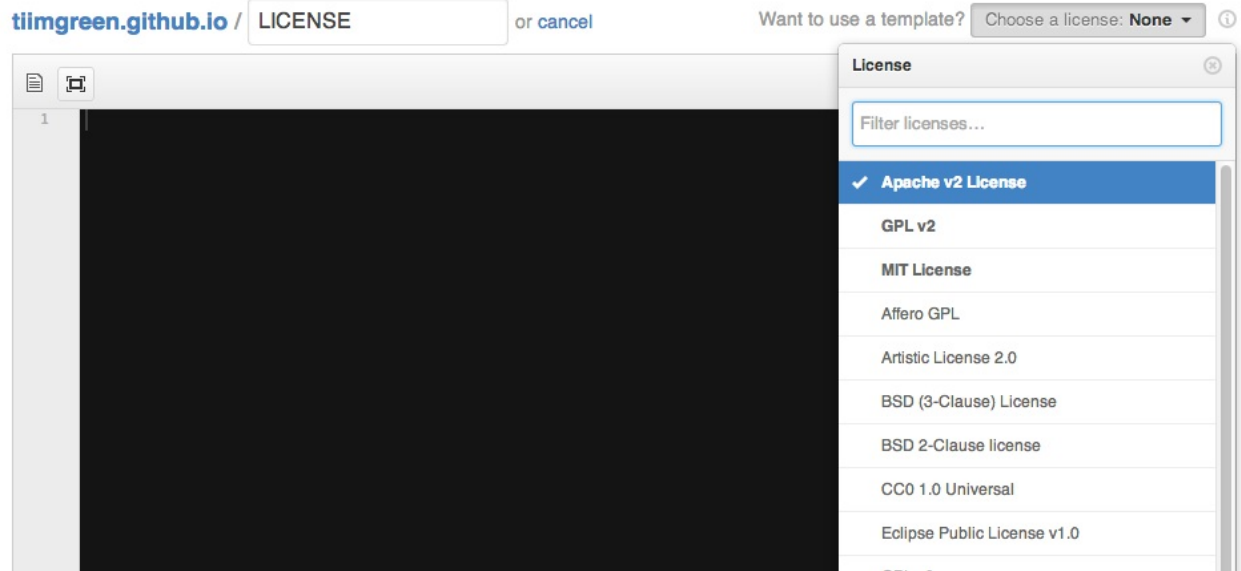
GPL v2

✓ MIT License

Affero GPL

[Terms](#) [Privacy](#) [Security](#) [Contact](#)

You can also add them to existing repositories by creating a new file through the web interface. When the name `LICENSE` is typed in you will get an option to use a template:



Also works for `.gitignore`.

[Read more about open source licensing.](#)

## Task Lists

In Issues and Pull requests check boxes can be added with the following syntax (notice the space):

- [ ] Be awesome
- [ ] Prepare dinner
  - [ ] Research recipe
  - [ ] Buy ingredients
  - [ ] Cook recipe
- [ ] Sleep

### < TODO #1

 Open AlexandreArpin opened this issue just now · 0 comments



AlexandreArpin commented just now

- ☐ Be awesome
- ☐ Prepare dinner
  - ☐ Research recipe
  - ☐ Buy ingredients
  - ☐ Cook recipe
- ☐ Sleep

When they are clicked, they will be updated in the pure Markdown:

- [x] Be awesome
- [ ] Prepare dinner
  - [x] Research recipe
  - [x] Buy ingredients
  - [ ] Cook recipe
- [ ] Sleep

[Read more about task lists.](#)



## Task Lists in Markdown Documents

In full Markdown documents **read-only** checklists can now be added using the following syntax:

```
- [ ] Mercury
- [x] Venus
- [x] Earth
- [x] Moon
- [x] Mars
- [ ] Deimos
- [ ] Phobos
```

- ☐ Mercury
- ☒ Venus
- ☒ Earth
  - ☒ Moon
- ☒ Mars
  - ☐ Deimos
  - ☐ Phobos

[Read more about task lists in markdown documents.](#)

## Relative Links

Relative links are recommended in your Markdown files when linking to internal content.

```
[Link to a header](#awesome-section)
[Link to a file](docs/readme)
```

Absolute links have to be updated whenever the URL changes (e.g. repository renamed, username changed, project forked). Using relative links makes your documentation easily stand on its own.

[Read more about relative links.](#)

## Metadata and Plugin Support for GitHub Pages

Within Jekyll pages and posts, repository information is available within the `site.github` namespace, and can be displayed, for example, using `{{ site.github.project_title }}`.

The Jemoji and jekyll-mentions plugins enable [emoji](#) and [@mentions](#) in your Jekyll posts and pages to work just like you'd expect when interacting with a repository on GitHub.com.

[Read more about repository metadata and plugin support for GitHub Pages.](#)

## Viewing YAML Metadata in your Documents

Many blogging websites, like [Jekyll](#) with [GitHub Pages](#), depend on some YAML-formatted metadata at the beginning of your post. GitHub will render this metadata as a horizontal table, for easier reading



file | 61 lines (39 sloc) | 1.415 kb

OpenEditRawBlameHistoryDelete

| layout | title                         | description                   | tags             | path                                      | eventdate  |
|--------|-------------------------------|-------------------------------|------------------|---|------------|
| bare   | Git and GitHub Review for NYU | Git and GitHub Review for NYU | notesonlineclass | classnotes/2013-02-13-NYU-github-class.md | 2013-02-13 |

## Your instructors for the evening are:

- Matthew McCullough (Twitter, GitHub)
- Tim Berglund (Twitter, GitHub)

[Read more about viewing YAML metadata in your documents.](#)

## Rendering Tabular Data

GitHub supports rendering tabular data in the form of `.csv` (comma-separated) and `.tsv` (tab-separated) files.

file | 869 lines (868 sloc) | 188.222 kb

EditRawBlameHistoryDelete

Search this file...

|    | Title                  | Release Year | Locations                             | Fun Facts                             | Production Company        |
|----|------------------------|--------------|---------------------------------------|---------------------------------------|---------------------------|
| 1  | 180                    | 2011         | 555 Market St.                        |                                       | SPI Cinemas               |
| 2  | 180                    | 2011         | Epic Roasthouse (399 Embarcade...     |                                       | SPI Cinemas               |
| 3  | 180                    | 2011         | Mason & California Streets (Nob Hill) |                                       | SPI Cinemas               |
| 4  | 180                    | 2011         | Justin Herman Plaza                   |                                       | SPI Cinemas               |
| 5  | 180                    | 2011         | 200 block Market Street               |                                       | SPI Cinemas               |
| 6  | 180                    | 2011         | City Hall                             |                                       | SPI Cinemas               |
| 7  | 180                    | 2011         | Polk & Larkin Streets                 |                                       | SPI Cinemas               |
| 8  | 180                    | 2011         | Randall Musuem                        |                                       | SPI Cinemas               |
| 9  | 24 Hours on Craigslist | 2005         |                                       |                                       | Yerba Buena Productions   |
| 10 | 48 Hours               | 1982         |                                       |                                       | Paramount Pictures        |
| 11 | 50 First Dates         | 2004         | Rainforest Café (145 Jefferson Str... |                                       | Columbia Pictures Corpora |
| 12 | A Jitney Elopement     | 1915         | Golden Gate Park                      | During San Francisco's Gold Rush...   | The Essanay Film Manufact |
| 13 | A Jitney Elopement     | 1915         | 20th and Folsom Streets               |                                       | The Essanay Film Manufact |
| 14 | A Night Full of Rain   | 1978         | San Francisco Chronicle (901 Mis...   | The San Francisco Zodiac Killer of... | Liberty Film              |

[Read more about rendering tabular data.](#)

## Diffs

### Rendered Prose Diffs

Commits and pull requests including rendered documents supported by GitHub (e.g. Markdown) feature *source* and *rendered* views.

21 rendered-prose-diffs.md

<>View

@@ -0,0 +1,21 @@

1 +# Rendered Prose Diffs

2 +

3 +Today we are making it easier to review and collaborate on prose documents. Commits and pull requests including

Click the "rendered" button to see the changes as they'll appear in the rendered document. Rendered prose view is

handy when you're adding, removing, and editing text:

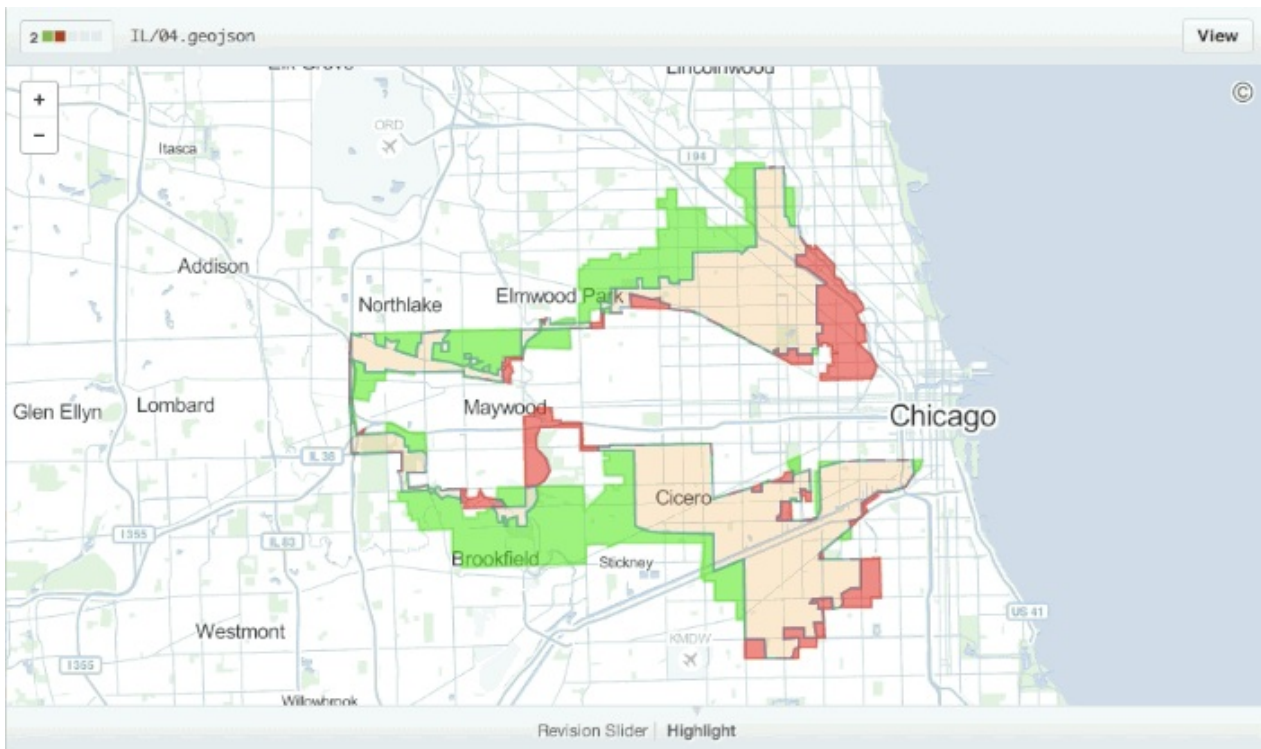
Obviously, you'll want to change `<your_client_id>` to match your actual Client ID.

Also, notice that the URL uses the `scope` query parameter to define the `scopes` requested by the application. For our application, we're requesting `user:email` scope for reading private email addresses.

[Read more about rendered prose diffs.](#)

## Diffable Maps

Any time you view a commit or pull request on GitHub that includes geodata, GitHub will render a visual representation of what was changed.



[Read more about diffable maps.](#)

## Expanding Context in Diffs

Using the *unfold* button in the gutter of a diff, you can reveal additional lines of context with a click. You can keep clicking *unfold* until you've revealed the whole file, and the feature is available anywhere GitHub renders diffs.

|     |     |   |
|-----|-----|---|
|     | 94  | + (RACSignal *)enqueueRequest:(NSURLRequest *)request fetchAllPages:(BOOL)fetchAllPages;                        |
|     | 95  | +   |
| 82  | 96  | // Enqueues a request to fetch information about the current user by accessing                                  |
| 83  | 97  | // a path relative to the user object.  |
| 84  | 98  | //  |
|     |     | @@ -241,11 +255,13 @@ - (id)initWithServer:(OCTServer *)server {  |
| 241 | 255 | NSString *userAgent = self.class.userAgent;   |
| 242 | 256 | if (userAgent != nil) [self setDefaultHeader:@"User-Agent" value:userAgent];                                    |
| 243 | 257 | - self.parameterEncoding = AFJSONParameterEncoding;   |
| 244 |     | - [self setDefaultHeader:@"Accept" value:@"application/vnd.github.beta+json"];                                  |
| 245 |     | -   |
| 246 |     |   |
| 247 | 258 | [AFHTTPRequestOperation addAcceptableStatusCodes:[NSIndexSet indexSetWithIndex:OCTClientNotModifiedStatusCode]] |
| 248 |     | - [AFJSONRequestOperation addAcceptableContentTypes:[NSSet setWithObject:@"application/vnd.github.beta+json"]]; |
|     | 259 | +   |
|     | 260 | + NSString *contentType = [NSString stringWithFormat:@"application/vnd.github.%@+json", OCTClientAPIVersion];   |
|     | 261 | + [self setDefaultHeader:@"Accept" value:contentType];  |
|     | 262 | + [AFJSONRequestOperation addAcceptableContentTypes:[NSSet setWithObject:contentType]];                         |
|     | 263 | +   |
|     | 264 | + self.parameterEncoding = AFJSONParameterEncoding;   |
| 249 | 265 | [self registerHTTPOperationClass:AFJSONRequestOperation.class];   |
| 250 | 266 |   |
| 251 | 267 | return self;  |

[Read more about expanding context in diffs.](#)

## Diff or Patch of Pull Request

You can get the diff of a Pull Request by adding a `.diff` or `.patch` extension to the end of the URL. For example:

```
https://github.com/tiimgreen/github-cheat-sheet/pull/15
https://github.com/tiimgreen/github-cheat-sheet/pull/15.diff
https://github.com/tiimgreen/github-cheat-sheet/pull/15.patch
```

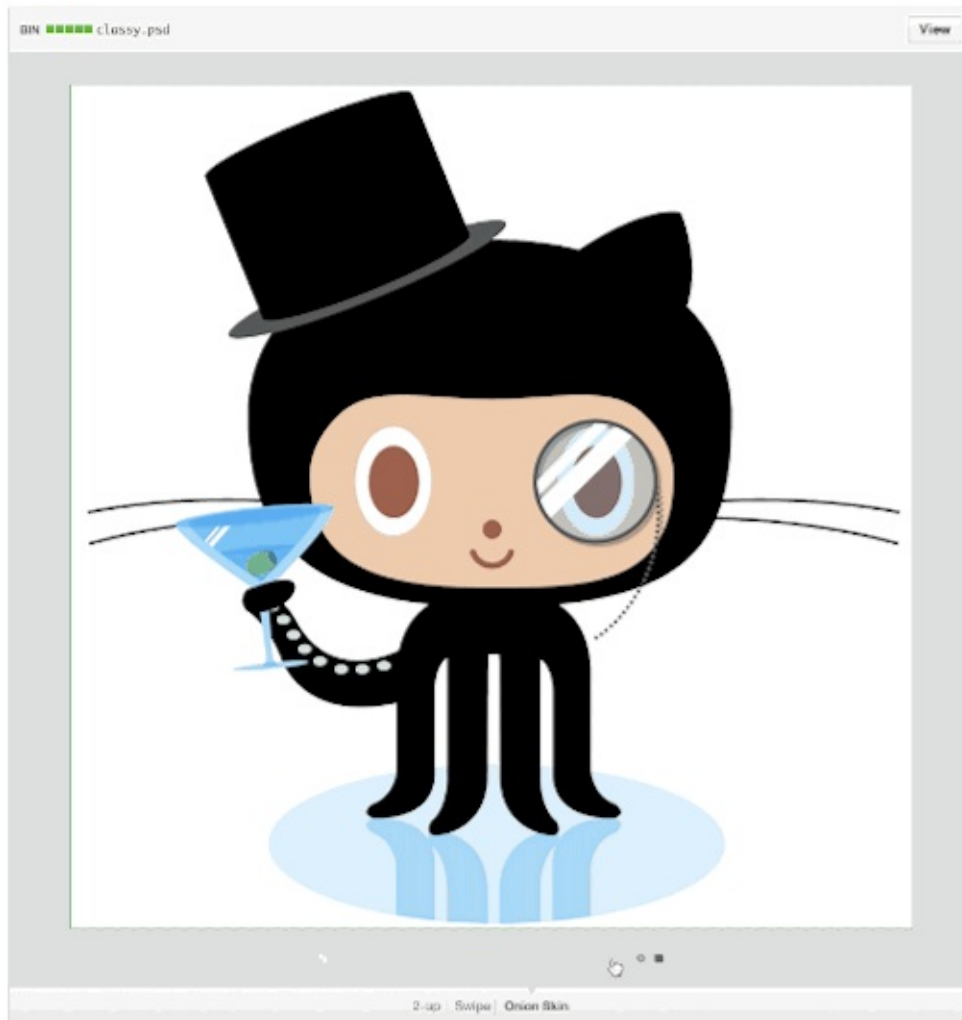
The `.diff` extension would give you this in plain text:

```
diff --git a/README.md b/README.md
index 88fcf69..8614873 100644
--- a/README.md
+++ b/README.md
@@ -28,6 +28,7 @@ All the hidden and not hidden features of Git and GitHub. This cheat sheet was i
- [Merged Branches](#merged-branches)
- [Quick Licensing](#quick-licensing)
- [TODO Lists](#todo-lists)
+- [Relative Links](#relative-links)
- [.gitconfig Recommendations](#gitconfig-recommendations)
- [Aliases](#aliases)
- [Auto-correct](#auto-correct)
@@ -381,6 +382,19 @@ When they are clicked, they will be updated in the pure Markdown:
- [ ] Sleep

(...)
```

## Rendering and diffing images

GitHub can display several common image formats, including PNG, JPG, GIF, and PSD. In addition, there are several ways to compare differences between versions of those image formats.



[Read more about rendering and diffing images.](#)

## Hub

[Hub](#) is a command line Git wrapper that gives you extra features and commands that make working with GitHub easier.

This allows you to do things like:

```
$ hub clone tiimgreen/toc
```

[Check out some more cool commands Hub has to offer.](#)

## Decreasing Contributor Friction

If you want people to use and contribute to your project, you need to start by answering their most basic questions. What does the project do? How do I use it? How am I allowed to use it? How do I contribute? How do I get up and running in development? How do I make sure my new features didn't break old functionality?

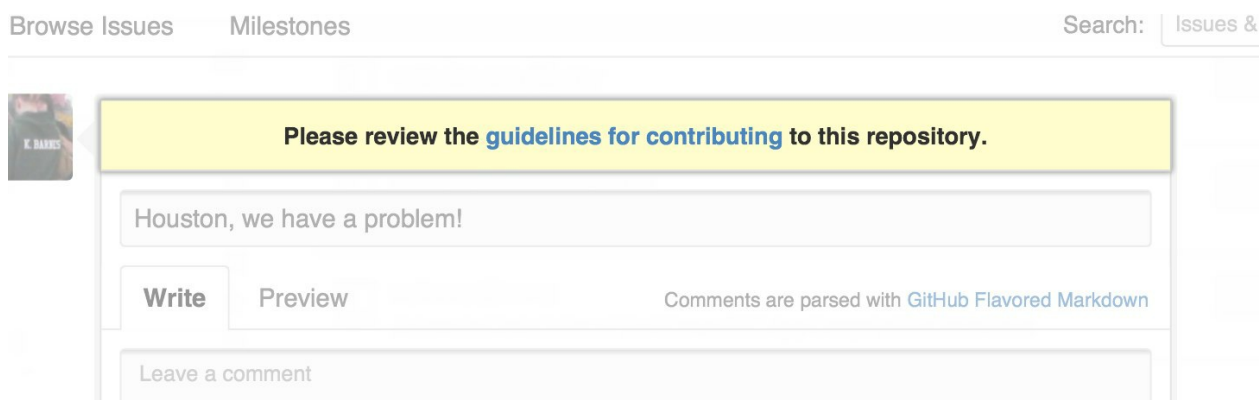
[Friction](#) is a command line script that will check your project for common [answers to these questions](#). This is some example output:

```
Tims-MacBook-Pro:test tim$ friction
/test
[ERROR] CONTRIBUTING guide not found (see http://git.io/g_0mVQ)
[ERROR] LICENSE not found (see http://git.io/pFMQMQ)
[ERROR] Bootstrap script not found (see http://git.io/jZoRYA)
[ERROR] Test script not found (see http://git.io/oo21Jw)
[ERROR] .gitignore not found (see http://git.io/pevJkA)
Tims-MacBook-Pro:test tim$
```

Friction supports MRI 2.1.0, MRI 2.0.0, and MRI 1.9.3.

## Contributing Guidelines

Adding a `CONTRIBUTING` file to the root of your repository will add a link to your file when a contributor creates an Issue or opens a Pull Request.



[Read more about contributing guidelines.](#)

## GitHub Resources

| Title            | Link  |
|------------------|---|
| GitHub Explore   | <a href="https://github.com/explore">https://github.com/explore</a>       |
| GitHub Blog      | <a href="https://github.com/blog">https://github.com/blog</a>             |
| GitHub Help      | <a href="https://help.github.com/">https://help.github.com/</a>           |
| GitHub Training  | <a href="http://training.github.com/">http://training.github.com/</a>     |
| GitHub Developer | <a href="https://developer.github.com/">https://developer.github.com/</a> |

## GitHub Talks

| Title   | Link  |
|---|---|
| How GitHub Uses GitHub to Build GitHub          | <a href="https://www.youtube.com/watch?v=qyz3jkOBbQY">https://www.youtube.com/watch?v=qyz3jkOBbQY</a> |
| Introduction to Git with Scott Chacon of GitHub | <a href="https://www.youtube.com/watch?v=ZDR433b0HJY">https://www.youtube.com/watch?v=ZDR433b0HJY</a> |
|   |   |

|  |  |
|--|--|
| How GitHub No Longer Works<br>Git and GitHub Secrets | <a href="https://www.youtube.com/watch?v=gXD1ITW7iZI">https://www.youtube.com/watch?v=gXD1ITW7iZI</a><br><a href="https://www.youtube.com/watch?v=Foz9yvMkvIA">https://www.youtube.com/watch?v=Foz9yvMkvIA</a> |
| More Git and GitHub Secrets                          | <a href="https://www.youtube.com/watch?v=p50xsL-iVgU">https://www.youtube.com/watch?v=p50xsL-iVgU</a>  |

# Git

## Previous Branch

To move to the previous branch in Git:

```
$ git checkout -  
# Switched to branch 'master'  
  
$ git checkout -  
# Switched to branch 'next'  
  
$ git checkout -  
# Switched to branch 'master'
```

[Read more about Git branching.](#)

## Stripspace

Git Stripspace:

- Strips trailing whitespace
- Collapses newlines
- Adds newline to end of file

A file must be passed when calling the command, e.g.:

```
$ git stripspace < README.md
```

[Read more about the Git `stripspace` command.](#)

## Checking out Pull Requests

Pull Requests are special branches on the GitHub repository which can be retrieved locally in several ways:

Retrieve a specific Pull Request and store it temporarily in `FETCH_HEAD` for quickly `diff`ing or `merge`ing:

```
$ git fetch origin refs/pull/[PR-Number]/head
```

Acquire all Pull Request branches as local remote branches by `refspec`:

```
$ git fetch origin '+refs/pull/*:refs/remotes/origin/pr/*'
```

Or setup the remote to fetch Pull Requests automatically by adding these corresponding lines in your repository's

`.git/config` :

```
[remote "origin"]  
  fetch = +refs/heads/*:refs/remotes/origin/*  
  url = git@github.com:tiimgreen/github-cheat-sheet.git
```



```
[remote "origin"]
  fetch = +refs/heads/*:refs/remotes/origin/*
  url = git@github.com:tiimgreen/github-cheat-sheet.git
  fetch = +refs/pull/*:head:refs/remotes/origin/pr/*
```

For Fork-based Pull Request contributions, it's useful to `checkout` a remote branch representing the Pull Request and create a local branch from it:

```
$ git checkout pr/42 pr-42
```

[Read more about checking out pull requests locally.](#)

## Empty Commits :trollface:

Commits can be pushed with no code changes by adding `--allow-empty`:

```
$ git commit -m "Big-ass commit" --allow-empty
```

Some use-cases for this (that make sense), include:

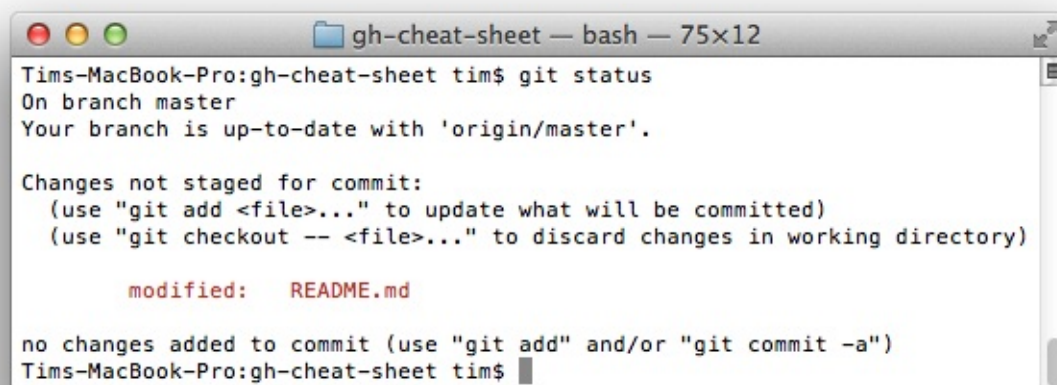
- Annotating the start of a new bulk of work or a new feature.
- Documenting when you make changes to the project that aren't code related.
- Communicating with people using your repository.
- The first commit of a repo, as the first commit cannot be rebased later: `git commit -m "init repo" --allow-empty`.

## Styled Git Status

Running:

```
$ git status
```

Produces:

A screenshot of a macOS terminal window titled "gh-cheat-sheet — bash — 75x12". The terminal shows the output of the command "git status". The output indicates the user is on the "master" branch and it is up-to-date with "origin/master". It lists "Changes not staged for commit:" with instructions on how to stage changes or discard them. A file named "README.md" is listed as "modified:". At the bottom, it states "no changes added to commit" and provides instructions for adding and committing changes. The prompt "Tims-MacBook-Pro:gh-cheat-sheet tim\$" is visible at the bottom.

```
Tims-MacBook-Pro:gh-cheat-sheet tim$ git status
On branch master
Your branch is up-to-date with 'origin/master'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

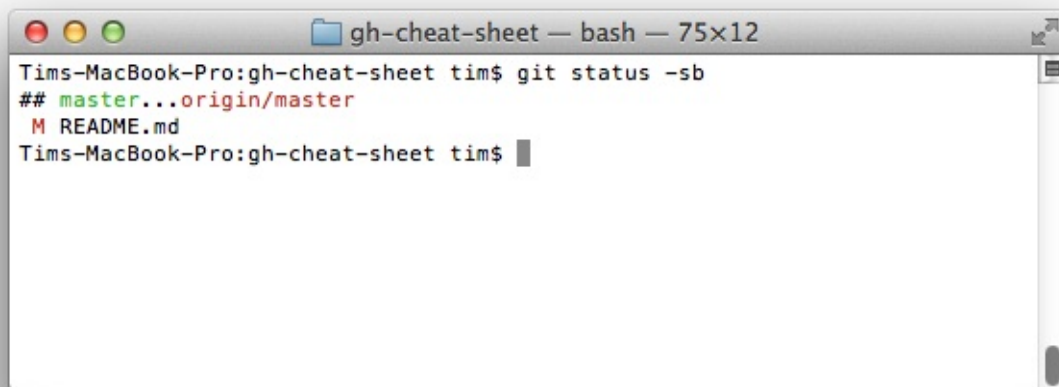
        modified:   README.md

no changes added to commit (use "git add" and/or "git commit -a")
Tims-MacBook-Pro:gh-cheat-sheet tim$
```

By adding `-sb`:

```
$ git status -sb
```

This is produced:



```
gh-cheat-sheet — bash — 75x12
Tims-MacBook-Pro:gh-cheat-sheet tim$ git status -sb
## master...origin/master
M README.md
Tims-MacBook-Pro:gh-cheat-sheet tim$
```

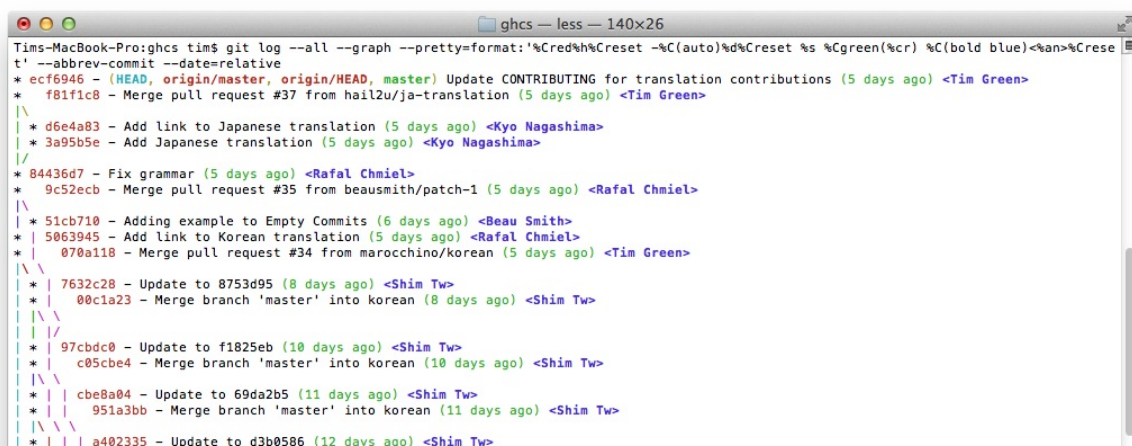
[Read more about the Git status command.](#)

## Styled Git Log

Running:

```
$ git log --all --graph --pretty=format:'%Cred%h%Creset -%C(auto)%d%Creset %s %Cgreen(%cr) %C(bold blue)<%an>%Creset' --abbrev=40
```

Produces:



```
ghcs — less — 140x26
Tims-MacBook-Pro:ghcs tim$ git log --all --graph --pretty=format:'%Cred%h%Creset -%C(auto)%d%Creset %s %Cgreen(%cr) %C(bold blue)<%an>%Creset' --abbrev=40
t' --abbrev-commit --date=relative
* ecf6946 - (HEAD, origin/master, origin/HEAD, master) Update CONTRIBUTING for translation contributions (5 days ago) <Tim Green>
* f81f1c8 - Merge pull request #37 from hail2u/ja-translation (5 days ago) <Tim Green>
|
| * d6e4a83 - Add link to Japanese translation (5 days ago) <Kyo Nagashima>
| * 3a95b5e - Add Japanese translation (5 days ago) <Kyo Nagashima>
|
| * 84436d7 - Fix grammar (5 days ago) <Rafal Chmiel>
| * 9c52ecb - Merge pull request #35 from beausmith/patch-1 (5 days ago) <Rafal Chmiel>
|
| * 51cb710 - Adding example to Empty Commits (6 days ago) <Beau Smith>
| * 5063945 - Add link to Korean translation (5 days ago) <Rafal Chmiel>
| * 070a118 - Merge pull request #34 from marocchino/korean (5 days ago) <Tim Green>
|
| * 7632c28 - Update to 8753d95 (8 days ago) <Shim Tw>
| * 00c1a23 - Merge branch 'master' into korean (8 days ago) <Shim Tw>
|
| * 97cbdc0 - Update to f1825eb (10 days ago) <Shim Tw>
| * c05cbe4 - Merge branch 'master' into korean (10 days ago) <Shim Tw>
|
| * cbe8a04 - Update to 69da2b5 (11 days ago) <Shim Tw>
| * 951a3bb - Merge branch 'master' into korean (11 days ago) <Shim Tw>
|
| * a402335 - Update to d3b0586 (12 days ago) <Shim Tw>
```

Credit to [Palesz](#)

This can be aliased using the instructions found [here](#).

[Read more about the Git log command.](#)



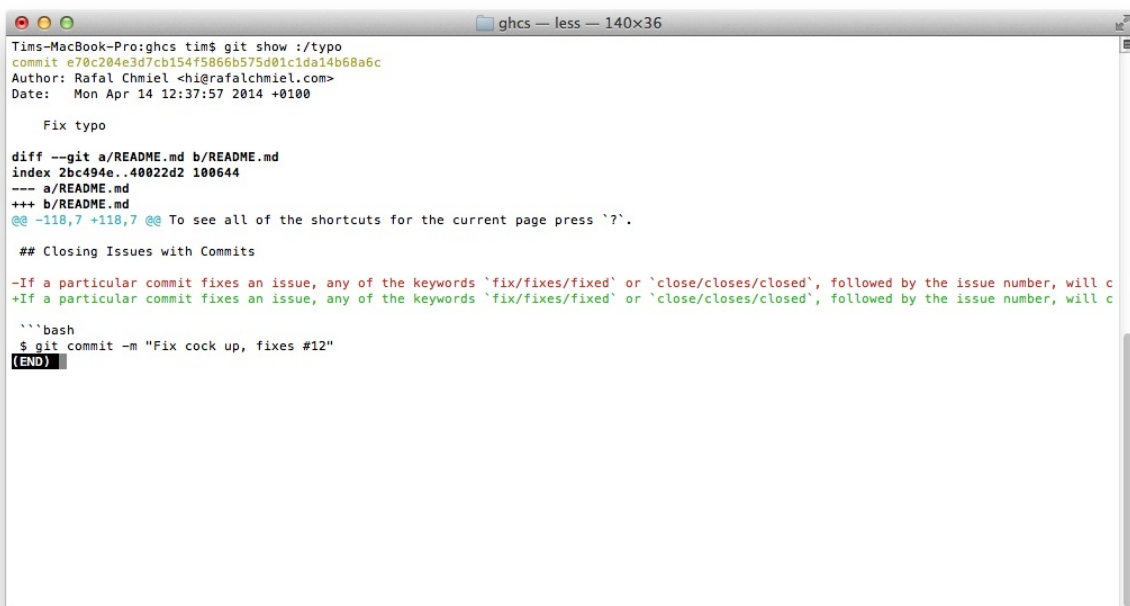
## Git Query

A Git query allows you to search all your previous commit messages and find the most recent one matching the query.

```
$ git show :/query
```

Where `query` (case-sensitive) is the term you want to search, this then finds the last one and gives details on the lines that were changed.

```
$ git show :/typo
```

A screenshot of a macOS terminal window titled 'ghcs — less — 140x36'. The terminal shows the output of the command 'git show :/typo'. The output includes commit details: 'commit e70c204e3d7cb154f5866b575d01c1da14b68a6c', 'Author: Rafal Chmiel <hi@rafalchmiel.com>', and 'Date: Mon Apr 14 12:37:57 2014 +0100'. It then shows a diff for 'Fix typo' in 'a/README.md', with a line change from 'To see all of the shortcuts for the current page press `?`.' to 'To see all of the shortcuts for the current page press `?`.'. Below the diff, there is a section titled '## Closing Issues with Commits' with instructions on how to close issues using commit keywords. The terminal ends with a prompt '```bash' and a command '\$ git commit -m "Fix cock up, fixes #12"', followed by a '(END)' indicator.

```
Tims-MacBook-Pro:ghcs tim$ git show :/typo
commit e70c204e3d7cb154f5866b575d01c1da14b68a6c
Author: Rafal Chmiel <hi@rafalchmiel.com>
Date: Mon Apr 14 12:37:57 2014 +0100

    Fix typo

diff --git a/README.md b/README.md
index 2bc494e..40022d2 100644
--- a/README.md
+++ b/README.md
@@ -118,7 +118,7 @@ To see all of the shortcuts for the current page press `?`.

## Closing Issues with Commits

-If a particular commit fixes an issue, any of the keywords `fix/fixes/fixed` or `close/closes/closed`, followed by the issue number, will c
+If a particular commit fixes an issue, any of the keywords `fix/fixes/fixed` or `close/closes/closed`, followed by the issue number, will c

```bash
$ git commit -m "Fix cock up, fixes #12"
(END)
```

Press `q` to quit.

## Merged Branches

Running:

```
$ git branch --merged
```

Will give you a list of all branches that have been merged into your current branch.

Conversely:

```
$ git branch --no-merged
```

Will give you a list of branches that have not been merged into your current branch.

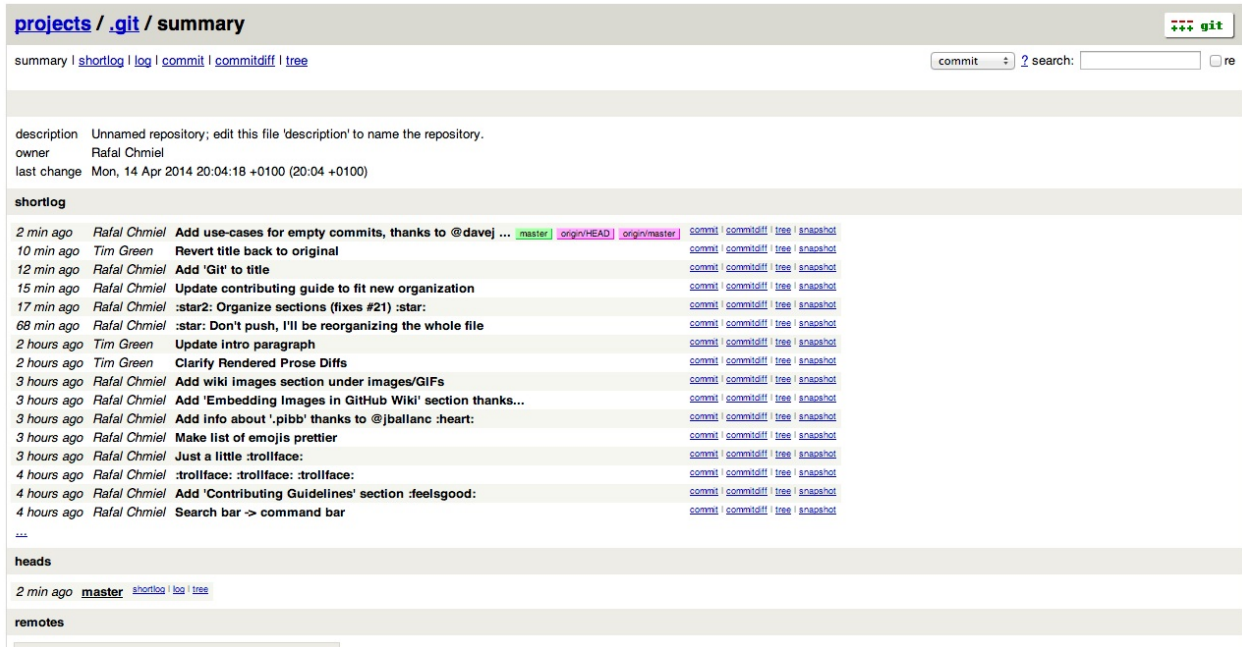
[Read more about the Git branch command.](#)

## Web Server for Browsing Local Repositories

Use the `Git instaweb` command to instantly browse your working repository in `gitweb`. This command is a simple script to set up `gitweb` and a web server for browsing the local repository.

```
$ git instaweb
```

Opens:



The screenshot shows the Git web interface for a repository named 'projects / .git / summary'. The interface includes a navigation bar with links for 'summary', 'shortlog', 'log', 'commit', 'commitdiff', and 'tree'. A search bar is located on the right. The main content area displays the repository's description, owner (Rafal Chmiel), and last change (Mon, 14 Apr 2014 20:04:18 +0100). Below this is a 'shortlog' section showing a list of recent commits with their authors, messages, and links to the commit, diff, tree, and snapshot. The 'heads' section shows the current branch 'master'. The 'remotes' section is currently empty.

[Read more about the Git instaweb command.](#)

## Git Configurations

Your `.gitconfig` file contains all your Git configurations.

## Aliases

Aliases are helpers that let you define your own git calls. For example you could set `git a` to run `git add --all`.

To add an alias, either navigate to `~/.gitconfig` and fill it out in the following format:

```
[alias]
co = checkout
cm = commit
p = push
# Show verbose output about tags, branches or remotes
tags = tag -l
branches = branch -a
remotes = remote -v
```

...or type in the command-line:

```
$ git config --global alias.new_alias git_function
```

For example:

```
$ git config --global alias.cm commit
```

For an alias with multiple functions use quotes:

```
$ git config --global alias.ac 'add -A . && commit'
```

Some useful aliases include:

Alias	Command	What to Type
git cm	git commit	git config --global alias.cm commit
git co	git checkout	git config --global alias.co checkout
git ac	git add . -A git commit	git config --global alias.ac '!git add -A && git commit'
git st	git status -sb	git config --global alias.st 'status -sb'
git tags	git tag -l	git config --global alias.tags 'tag -l'
git branches	git branch -a	git config --global alias.branches 'branch -a'
git remotes	git remote -v	git config --global alias.remotes 'remote -v'
git lg	git log --color --graph --pretty=format:%Cred%h%Creset -%C(yellow)%d%Creset %s %Cgreen(%cr) %C(bold blue)<%an>%Creset' --abbrev-commit --	git config --global alias.lg "log --color --graph --pretty=format:%Cred%h%Creset -%C(yellow)%d%Creset %s %Cgreen(%cr) %C(bold blue)<%an>%Creset' --abbrev-commit --"

Some Aliases are taken from [@mathiasbynens](https://github.com/mathiasbynens/dotfiles/blob/master/.gitconfig) dotfiles: <https://github.com/mathiasbynens/dotfiles/blob/master/.gitconfig>

## Auto-Correct

If you type `git comit` you will get this:

```
$ git comit -m "Message"
# git: 'comit' is not a git command. See 'git --help'.

# Did you mean this?
#  commit
```

To call `commit` when `comit` is typed, just enable auto-correct:

```
$ git config --global help.autocorrect 1
```

So now you will get this:

```
$ git comit -m "Message"
# WARNING: You called a Git command named 'comit', which does not exist.
# Continuing under the assumption that you meant 'commit'
# in 0.1 seconds automatically...
```

## Color

To add more color to your Git output:

```
$ git config --global color.ui 1
```

[Read more about the Git config command.](#)

## Git Resources

Title	Link
Official Git Site	<a href="http://git-scm.com/">http://git-scm.com/</a>
Official Git Video Tutorials	<a href="http://git-scm.com/videos">http://git-scm.com/videos</a>
Code School Try Git	<a href="http://try.github.com/">http://try.github.com/</a>
Introductory Reference & Tutorial for Git	<a href="http://gitref.org/">http://gitref.org/</a>
Official Git Tutorial	<a href="http://git-scm.com/docs/gittutorial">http://git-scm.com/docs/gittutorial</a>
Everyday Git	<a href="http://git-scm.com/docs/everyday">http://git-scm.com/docs/everyday</a>
Git Immersion	<a href="http://gitimmersion.com/">http://gitimmersion.com/</a>
Ry's Git Tutorial	<a href="http://rypress.com/tutorials/git/index.html">http://rypress.com/tutorials/git/index.html</a>
Git for Designer	<a href="http://hoth.entp.com/output/git_for_designers.html">http://hoth.entp.com/output/git_for_designers.html</a>
Git for Computer Scientists	<a href="http://eagain.net/articles/git-for-computer-scientists/">http://eagain.net/articles/git-for-computer-scientists/</a>
Git Magic	<a href="http://www-cs-students.stanford.edu/~blynn/gitmagic/">http://www-cs-students.stanford.edu/~blynn/gitmagic/</a>
GitHub Training Kit	<a href="http://training.github.com/kit">http://training.github.com/kit</a>

## Git Books

Title	Link
Pragmatic Version Control Using Git	<a href="http://www.pragprog.com/titles/tsgit/pragmatic-version-control-using-git">http://www.pragprog.com/titles/tsgit/pragmatic-version-control-using-git</a>
Pro Git	<a href="http://git-scm.com/book">http://git-scm.com/book</a>
Git Internals Peepcode	<a href="http://peepcode.com/products/git-internals-pdf">http://peepcode.com/products/git-internals-pdf</a>
Git in the Trenches	<a href="http://cbx33.github.com/gitt/">http://cbx33.github.com/gitt/</a>
Version Control with Git	<a href="http://www.amazon.com/Version-Control-Git-collaborative-development/dp/1449316387">http://www.amazon.com/Version-Control-Git-collaborative-development/dp/1449316387</a>
Pragmatic Guide to Git	<a href="http://www.pragprog.com/titles/pg_git/pragmatic-guide-to-git">http://www.pragprog.com/titles/pg_git/pragmatic-guide-to-git</a>
Git: Version Control for Everyone	<a href="http://www.packtpub.com/git-version-control-for-everyone/book">http://www.packtpub.com/git-version-control-for-everyone/book</a>