

Git & workflows

Elian Van Cutsem - 2021

Who am I?

Linux user

Self-taught programmer

3ICT

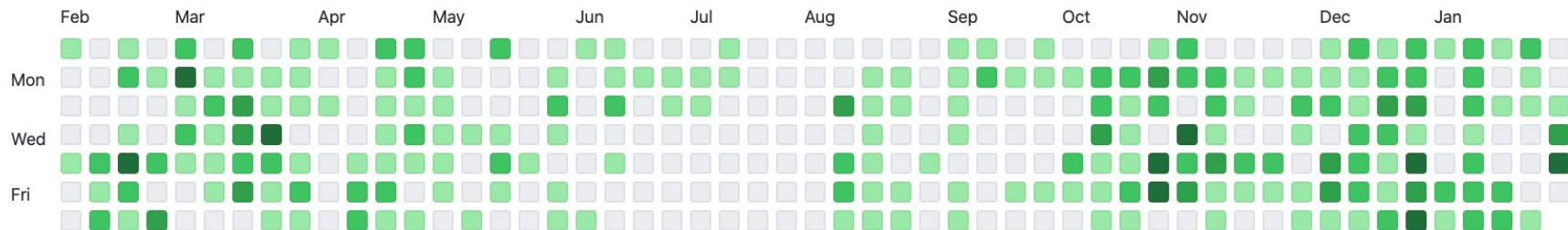
[vBridge BV](#) since 2020

Full-Stack software engineer

Actually a photographer



1,659 contributions in the last year



Learn how we count contributions.

Less



Tip



More

**DO YOU HAVE A MOMENT TO TALK
ABOUT**

**GIT AND THE PROPHET LINUS
TORVALDS?**

Inhoud

1. OSS
2. VCS
3. Git
4. GitHub
5. How to use GIT like a pro
6. Honorable mentions
7. Set up a git workflow
8. Demo

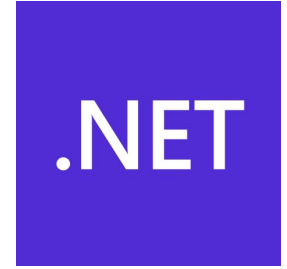
1. OSS

What's OSS

- Open Source Software
- Everyone can contribute
- To achieve this -> VCS



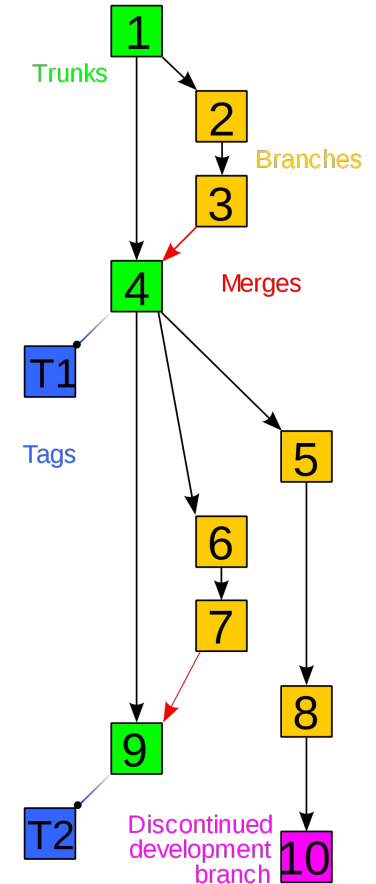
Some Examples



2. VCS

What's a VCS

- Version Control System
- SCCS - source code control system (1975)
- RCS - Revision Control system (1982)
- CVS - Concurrent Versions System (1989)
- GIT - (2005)



3. GIT



It's really not that difficult

People just don't use it right.



Why was it founded?

- Email sucks
- review and revert features
- Owner still has control

What makes it different?

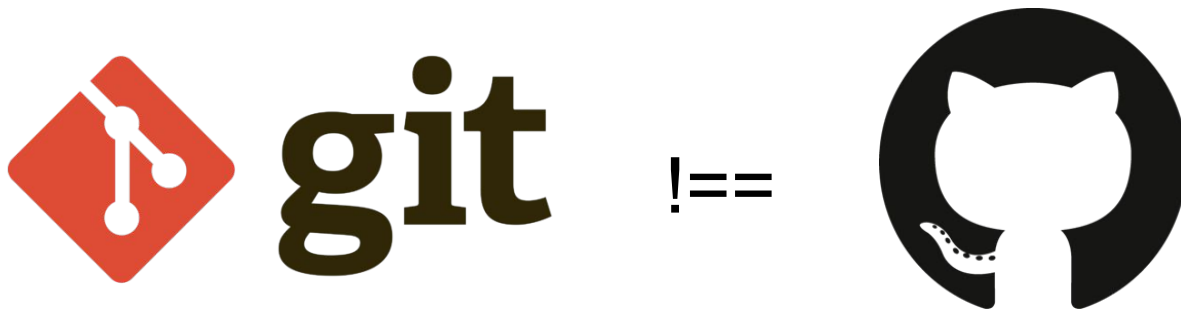
- Parallel branches
- Speed
- Simple
- Fully distributed
- Large projects are efficiently handled

How does it work?

- keeps only .diff files to track changes

Git vs. Github

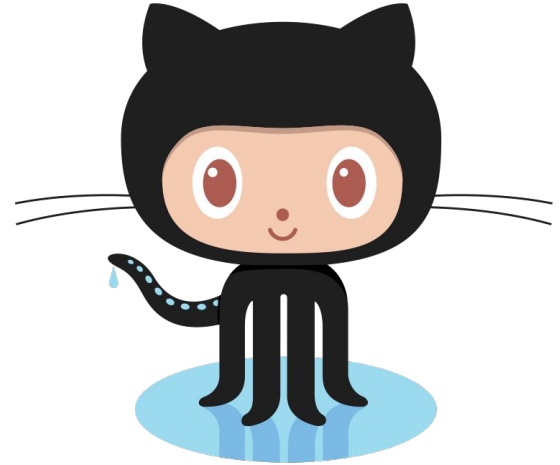
- Git is not Github!
- Github is a hosted git platform
- Even you can host a git platform (self-hosted gitlab)
- (git.ikdoeict.be)



4. Github

What is Github

- platform for open source contribution
- source code management



Are there alternatives?



Claim your Github Developer Package

<https://education.github.com/pack>



GitHub
**Student
Developer
Pack**



Enough history



5. How to use git like a pro

Ways to use git

- [git bash](#)
- [git GUI](#) (please don't)
- [Github Desktop](#)
- [Gitkraken](#) (licence included in education pack)

GIT basics

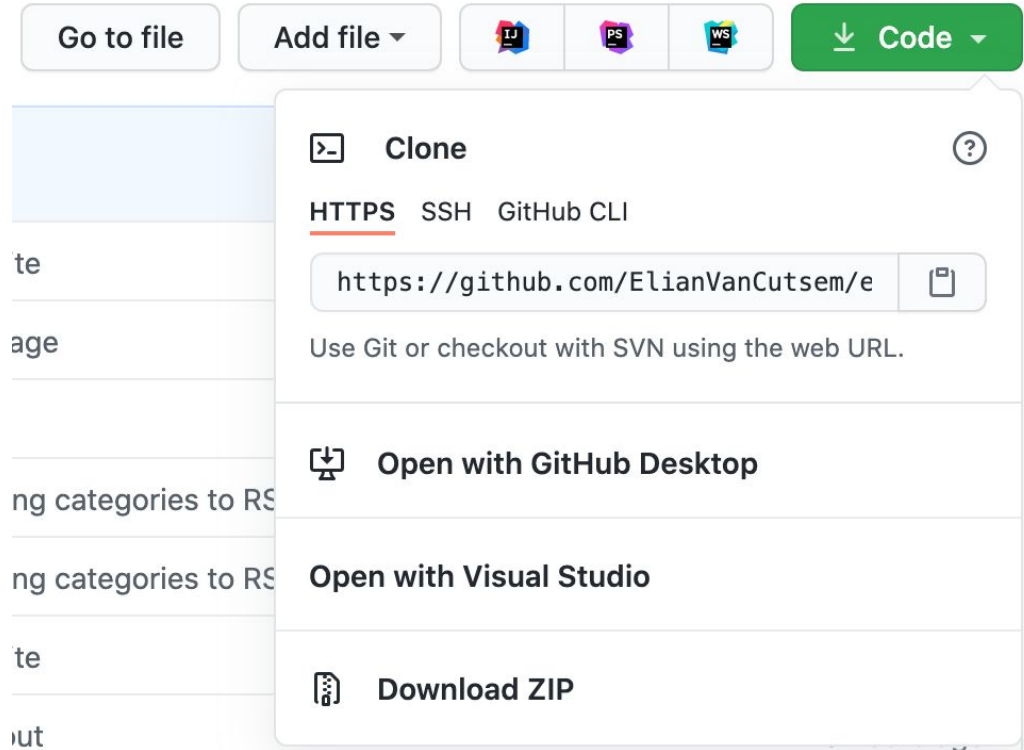
Initializing a project

- `git init`
- `git remote add`

Cloning a project

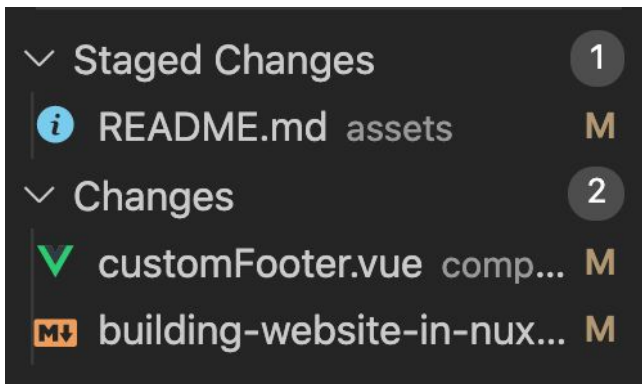
- git clone

Downloads the repo with
.git folder on machine



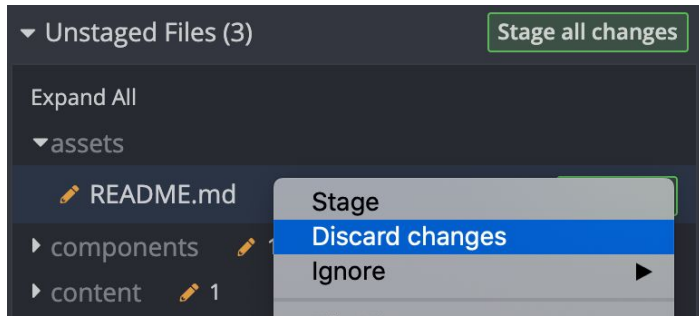
Making changes

- `git add` - adds file to commit
- `git commit` - defines all changes as a commit
- `git push` - pushes all local commits to remote
- `git push --force` - force pushes all commits without pull or fast-forward



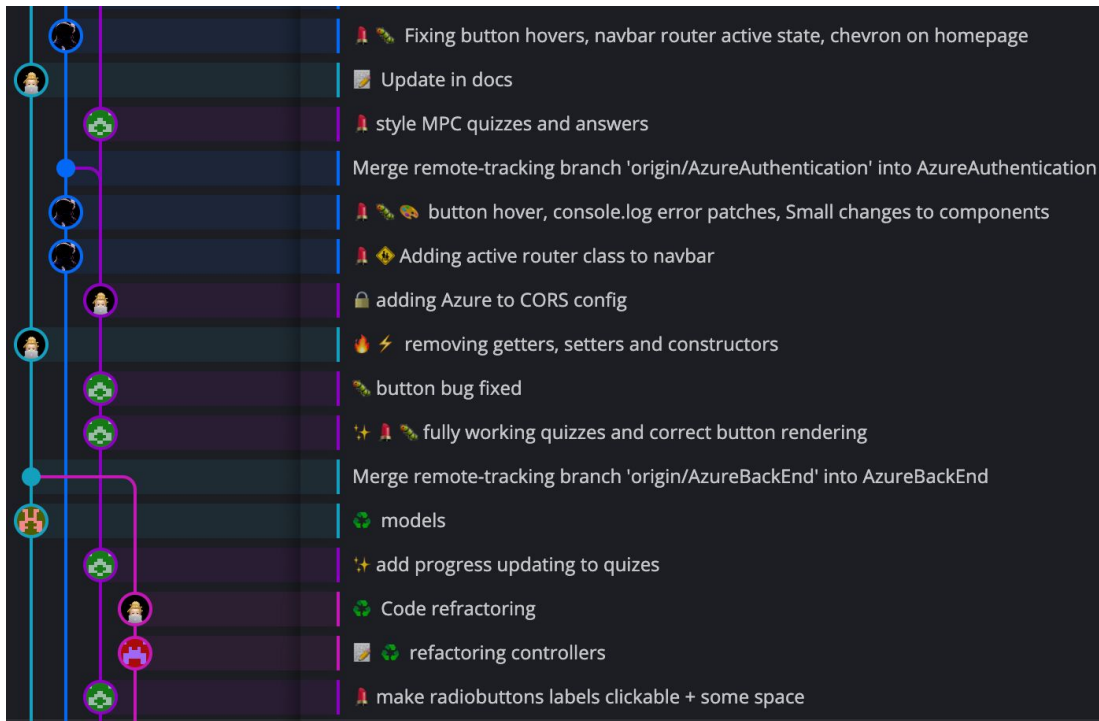
Discarding changes

reverts current state of changed file to state of last commit



Branching

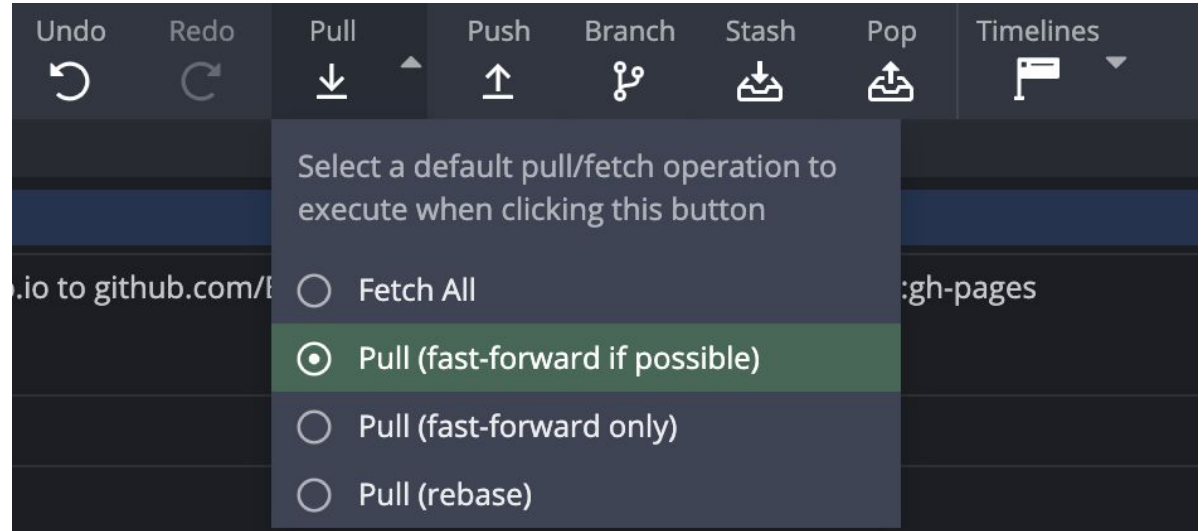
- git checkout
- git branch



Represents a new line of sourcecode, used to implement new features or anything that takes more than 1 commit

Pulling remote changes

- git fetch
- git pull



Reverting commits

- `git reset`

hard reset: removes all commits after selected one and rebase.

soft reset: removes all commits but keeps all changes

.gitignore & .gitkeep

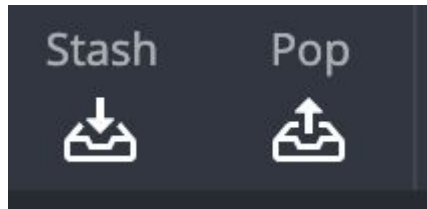
.gitignore defines what files or folders to not push or track (node_modules/ for instance)

.gitkeep is a file placed in an empty directory to push an empty folder to remote

GIT Advanced

Stashing changes

- `git stash`
- `git stash pop`
- `git stash apply`



A stash is a local representation of commits but aren't applied on current branch.

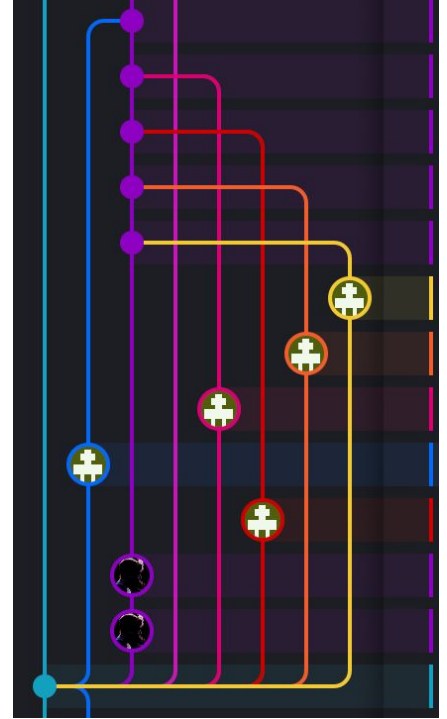
pop: gets all changes out of stash and discards stash

apply: gets all changes out of stash but keeps stash

Pull requests or merging branches

A pull request compares two branches and makes a merge request.

when approved, all changes of both branches are combined.



Squash

Squashes multiple commits together as one commit.

This is made easy in git gui's.

Special case: forking

A fork is a total copy of a branch from another user or organisation.
You can compare and merge forks if permitted by owner.

Github specific features

Issues

! **Enable performance measuring in production, at the user's request** feature request

#11775 opened on 17 Nov 2020 by vegeerot

! **Consider detecting browser environment just-in-time** discussion

#11772 opened on 14 Nov 2020 by seabamarynissen

! **Strange SSR behavior in v-for loop with if-else and v-text** bug feat:ssr has workaround

#11771 opened on 13 Nov 2020 by TrueCarry

! **Memory leaking components on asynchronous return calls after destruction**

#11760 opened on 9 Nov 2020 by badpunman

! **when use key in Object.prototype carelessly as prop, it will work wrong way** discussion feature request

#11757 opened on 9 Nov 2020 by LongTengDao

Pull request reviews

- approve
- comment
- request changes

+25 -2 ■■■■

0 / 2 files viewed ⓘ [Review changes](#)

Finish your review

Write

Preview

H B I ≡ <> 🔗 ≡ ≡ ☑ @ ↻ ↶

Leave a comment

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

☒ **Comment**

Submit general feedback without explicit approval.

☐ **Approve**

Submit feedback approving these changes.

☐ **Request changes**

Submit feedback suggesting changes.

Submit review

.diff visuals

5 src/core/components/keep-alive.js

@@ -1,6 +1,6 @@

1 /* @flow */

2

3 - import { isRegExp, remove } from 'shared/util'

4 import { getFirstComponentChild } from 'core/vdom/helpers/index'

5

6 type VNodeCache = { [key: string]: ?VNode };

@@ -10,10 +10,11 @@ function getComponentName (opts: ?VNodeComponentOptions): ?string {

10 }

11

12 function matches (pattern: string | RegExp | Array<string>, name: string): boolean {

13 if (Array.isArray(pattern)) {

14 return pattern.indexOf(name) > -1

15 } else if (typeof pattern === 'string') {

16 - return pattern.split(',').indexOf(name) > -1

17 }

18 } else if (isRegExp(pattern)) {

19 return pattern.test(name)

20 }

1 /* @flow */

2

3 + import { isRegExp, remove, toString } from 'shared/util'

4 import { getFirstComponentChild } from 'core/vdom/helpers/index'

5

6 type VNodeCache = { [key: string]: ?VNode };

10 }

11

12 + function matches (pattern: string | RegExp | Array<string>, name: string): boolean {

13 + name = toString(name).trim()

14 if (Array.isArray(pattern)) {

15 return pattern.indexOf(name) > -1

16 } else if (typeof pattern === 'string') {

17 + return pattern.split(',').map(i => i.trim()).indexOf(name) > -1


18 }

19 return pattern.test(name)


20 }

This conversation was marked as resolved by JerryYuanJ


Hide conversation

 Progowi 5 days ago

just asking - maybe it's a good idea to trim the name too?

 JerryYuanJ 4 days ago Author

makes sense, sorry for missing that, thanks.

 Reply...

40

Little Github trick

view any commit as a .diff by adding .diff in url

```
diff --git a/BACKERS.md b/BACKERS.md
index 64ed8fcbd6..84ab7e65ef 100644
--- a/BACKERS.md
+++ b/BACKERS.md
@@ -62,6 +62,11 @@ Funds donated via Patreon go directly to support Evan You's full-time work on Vu
     
   </a>
 </td>
+ <td align="center" valign="middle">
+   <a href="https://nuxtjs.org/" target="_blank">
+     
+   </a>
+ </td>
</tr><tr></tr>
</tbody>
</table>
diff --git a/README.md b/README.md
index 7b88ae71a1..a15c6781af 100644
--- a/README.md
+++ b/README.md
@@ -72,6 +72,11 @@ Funds donated via Patreon go directly to support Evan You's full-time work on Vu
     
   </a>
 </td>
+ <td align="center" valign="middle">
+   <a href="https://nuxtjs.org/" target="_blank">
+     
+   </a>
+ </td>
</tr><tr></tr>
</tbody>
</table>
```

Milestones

extension of Issues

[🔍 Labels](#) [📌 Milestones](#) [New milestone](#)

[📌 2 Open](#) [✓ 0 Closed](#) [Sort ▼](#)

Front-end fully functional

No due date [🕒 Last updated 20 days ago](#)

89% complete 2 open 17 closed

[Edit](#) [Close](#) [Delete](#)

API fully functional

No due date [🕒 Last updated 21 days ago](#)

94% complete 2 open 32 closed

[Edit](#) [Close](#) [Delete](#)

How does this translate to other git platforms?



The nightmare of every senior developer

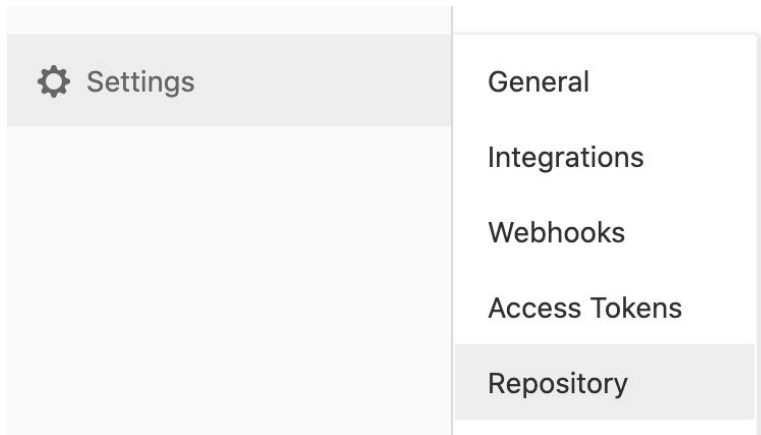
merge conflicts & how to solve them



6. Honorable mentions

Syncing a project between Github & Gitlab

1. make a repo on github and gitlab
2. check repository settings
3. fill in your github details
4. see the magic work



Mirroring repositories

Set up your project to automatically push and/or pull changes to/from another repository. Branches, tags, and commits will be synced automatically. [How do I mirror repositories?](#)

Git repository URL

Input the remote repository URL

- The repository must be accessible over `http://`, `https://`, `ssh://` or `git://`.
- When using the `http://` or `https://` protocols, provide the exact URL to the repository. HTTP redirects will not be followed.
- Include the username in the URL if required: `https://username@gitlab.company.com/group/project.git`.
- The update action will time out after 180 minutes. For big repositories, use a clone/push combination.
- Git LFS objects will be synced if LFS is [enabled for the project](#). Push mirrors will **not** sync LFS objects over SSH.
- In case of pull mirroring, your user will be the author of all events in the activity feed that are the result of an update, like new branches being created or new commits being pushed to existing branches.

Mirror direction

Pull

Authentication method

Password

Password

Git hooks

- pre-commit
- pre-push

```
npm install husky --save-dev
```

```
// package.json
{
  "husky": {
    "hooks": {
      "pre-commit": "npm test",
      "pre-push": "npm test",
      "...": "..."
    }
  }
}
```

```
git commit -m 'Keep calm and commit'
```

defines what script to run on action

Gitmoji



:art:

Improve structure / format of the code.



:zap:

Improve performance.



:fire:

Remove code or files.



:bug:

Fix a bug.



:ambulance:

Critical hotfix.



:sparkles:

Introduce new features.



:memo:

Add or update documentation.



:rocket:

Deploy stuff.



:lipstick:

Add or update the UI and style files.

Github integrations

- dependabot
- Heroku / Netlify
- security

Installed GitHub Apps

GitHub Apps augment and extend your workflows on GitHub with commercial, open source, and homegrown tools.



Codacy Production

Configure



Codecov

Configure






















Dependabot Preview

Configure



Netlify

Configure

<input type="checkbox"/>	   Node: Bump swagger-ui-dist from 3.40.0 to 3.42.0 ✓ dependencies javascript		 1
	#499 opened 7 hours ago by dependabot bot		
<input type="checkbox"/>	   Node: Bump marked from 0.3.6 to 1.2.9 ✓ dependencies javascript		 1
	#498 opened yesterday by dependabot bot		
<input type="checkbox"/>	   maven: Bump msal4j from 1.8.1 to 1.9.0 ✓ dependencies java		 1
	#497 opened 2 days ago by dependabot bot		
<input type="checkbox"/>	   maven: Bump nimbus-jose-jwt from 7.9 to 9.5 ✗ dependencies java		
	#496 opened 3 days ago by dependabot bot		

7. So how do we setup a good workflow with git

1. define your project
2. Write a good README
3. define git hooks
4. setup CI/CD
5. build the project
6. review requests
7. merge away!

8. Demo

with Github & Gitkraken

Questions

contact me whenever you like: elian.vancutsem@student.odisee.be

LinkedIn: [linkedin.com/in/elianvancutsem/](https://www.linkedin.com/in/elianvancutsem/)

Further reading

- <https://hackernoon.com/understanding-git-fcfd87c15a3>
- <https://git-scm.com/book/en/v2/>

[Get your Gitlab certificates!](#)