

Kollaboration über Versionskontrolle

Web Development
Vertiefungsmodul im Medieninformatik Bachelor

11.04.2019, Dirk Breuer

HELO

- Dirk Breuer
- Medieninformatik Alumni (Master)
- Über 10 Jahre Erfahrung als Software Entwickler in unterschiedlichen Projekten

Social Coding?!?



„Social coding is an approach to development that places an emphasis on formal and informal collaboration.”

- <https://medium.com/@MentallyFriendly/social-coding-better-faster-stronger-b86d435f7cc0>



*„Social coding empowers
knowledge exchange.”*

- https://www.ibm.com/cloud/garage/content/culture/practice_social_coding



*„There are many benefits to social coding but the most important is probably the opportunity it presents for **mutual growth and learning**. Developers are allowed to **collaborate** in an environment that fosters **discussion, creation and sharing**.”*

- <https://devops.com/social-coding>



*„Social coding can also increase the quality
of your software.”*

- https://www.ibm.com/cloud/garage/content/culture/practice_social_coding



*„Not only can you learn from social coding,
but it **can be fun**.”*

- https://www.ibm.com/cloud/garage/content/culture/practice_social_coding

Social Coding

- Soziale Netzwerke mit Fokus auf Software
- Geteilt werden nicht (nur) Katzenbilder sondern Artefakte aus der Softwareentwicklung:
 - Architekturentscheidungen
 - Quellcode
 - Designs
 - Anforderungen
 - Bugs
 - Produktplanung
- Kollaboration wird in den Vordergrund gestellt, nicht die Arbeit des Einzelnen



Aber warum sollte mich das
überhaupt interessieren?

31.000.000+ Entwickler

96.000.000+ Repositories

200.000.000+ Pull Requests

Auf GitHub, Stand 2018.

<https://octoverse.github.com/>

<code/later>



Softwareentwicklung
ist
interdisziplinär

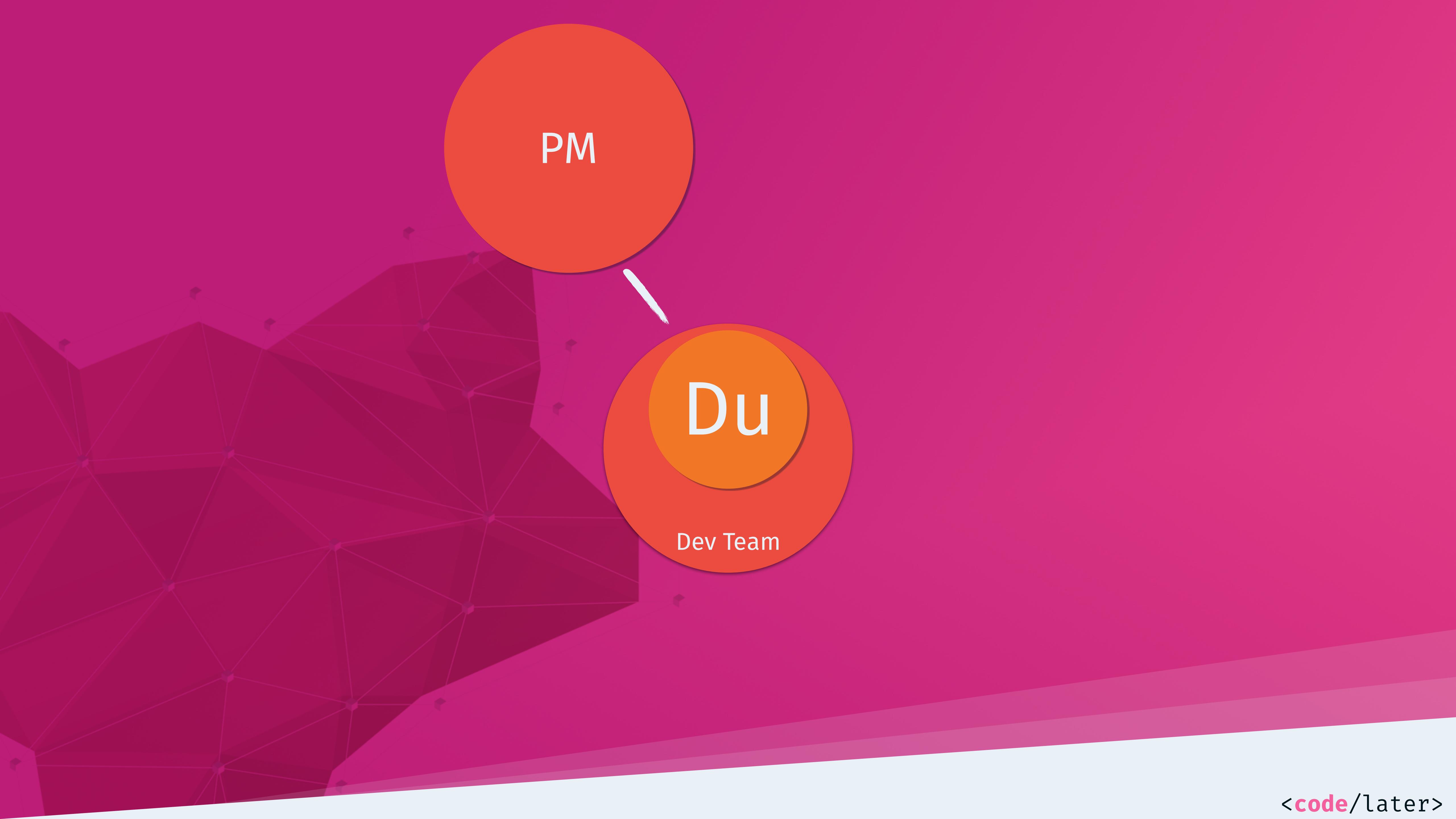


Du



Du

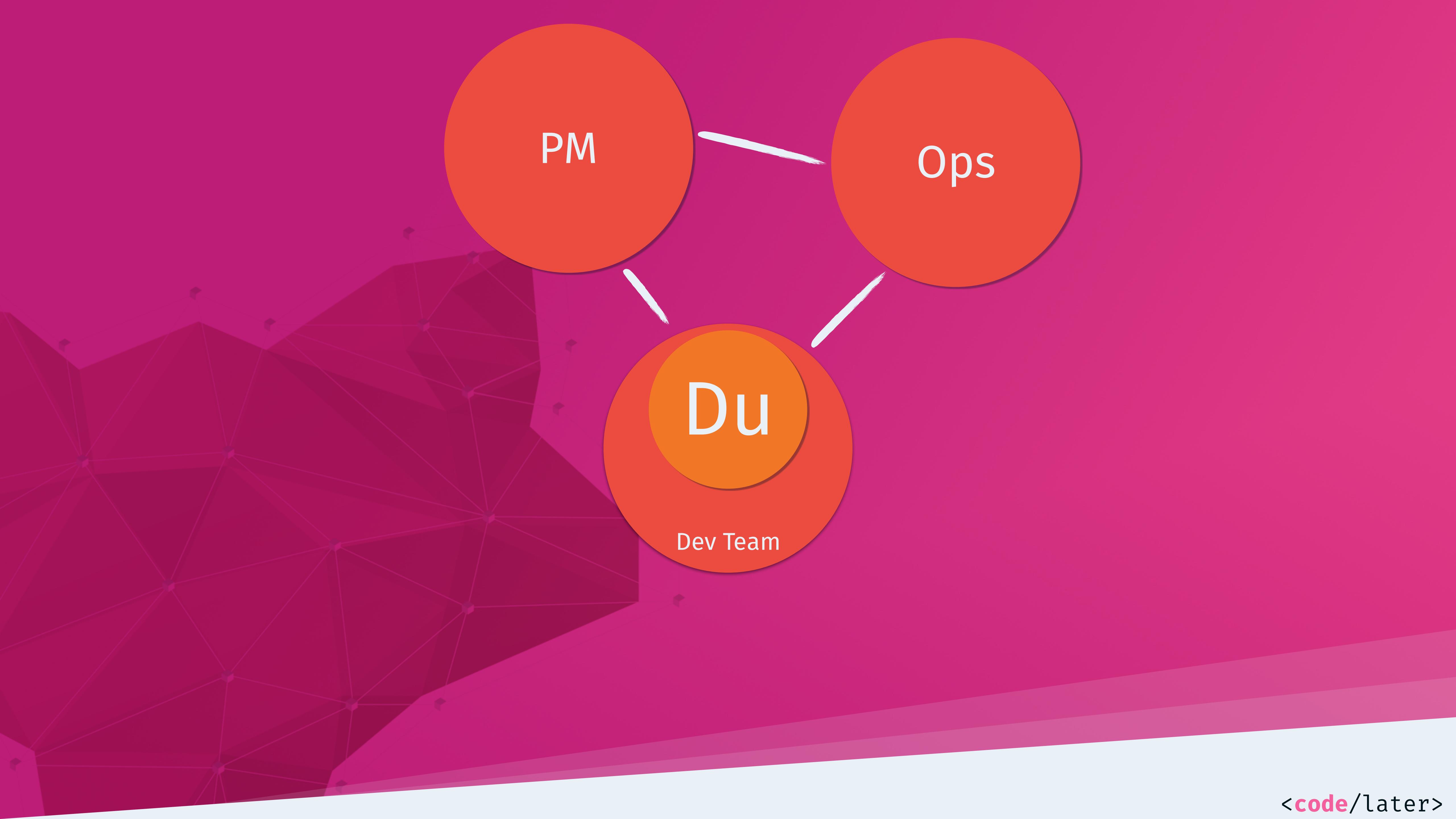
Dev Team

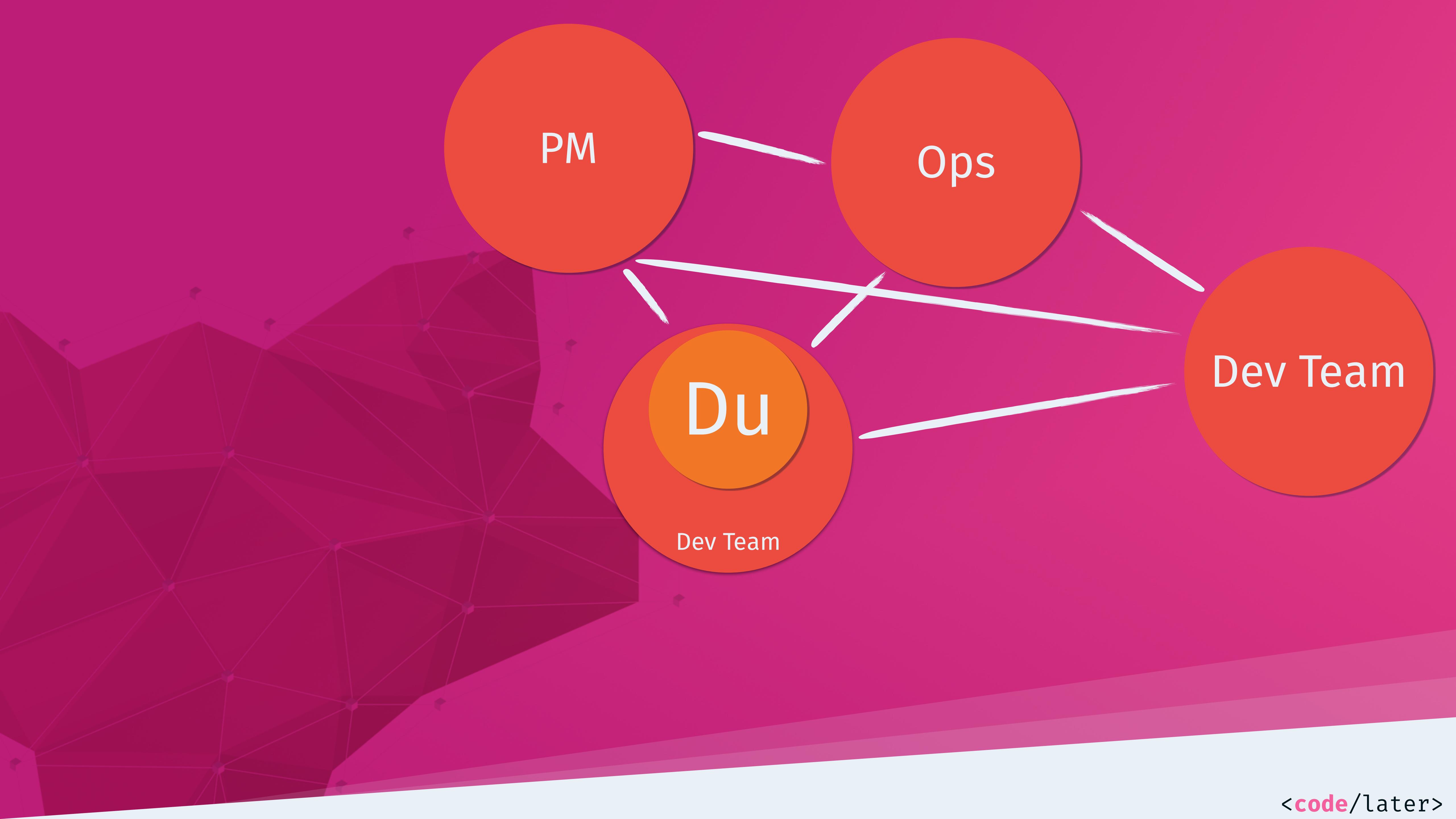


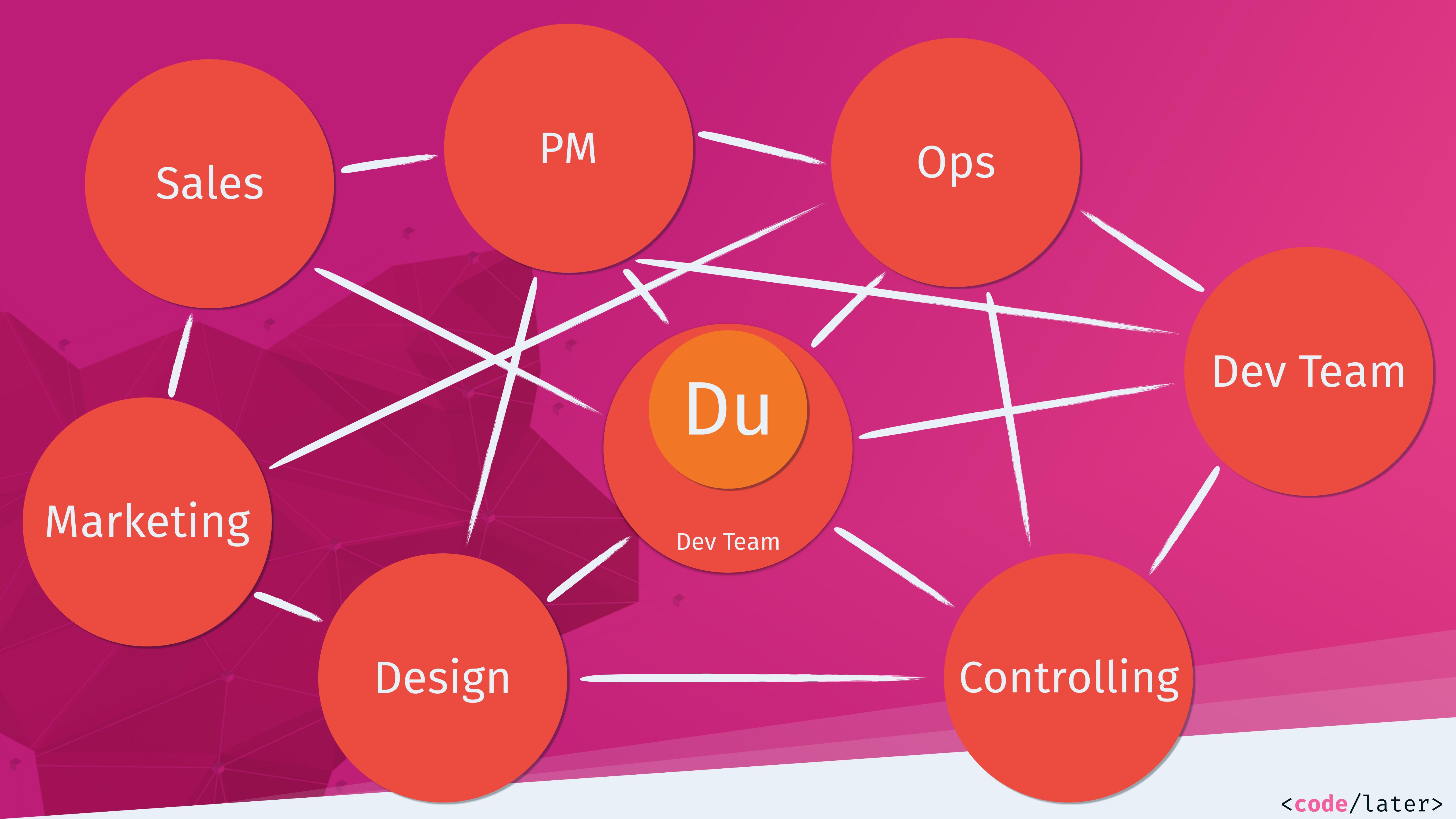
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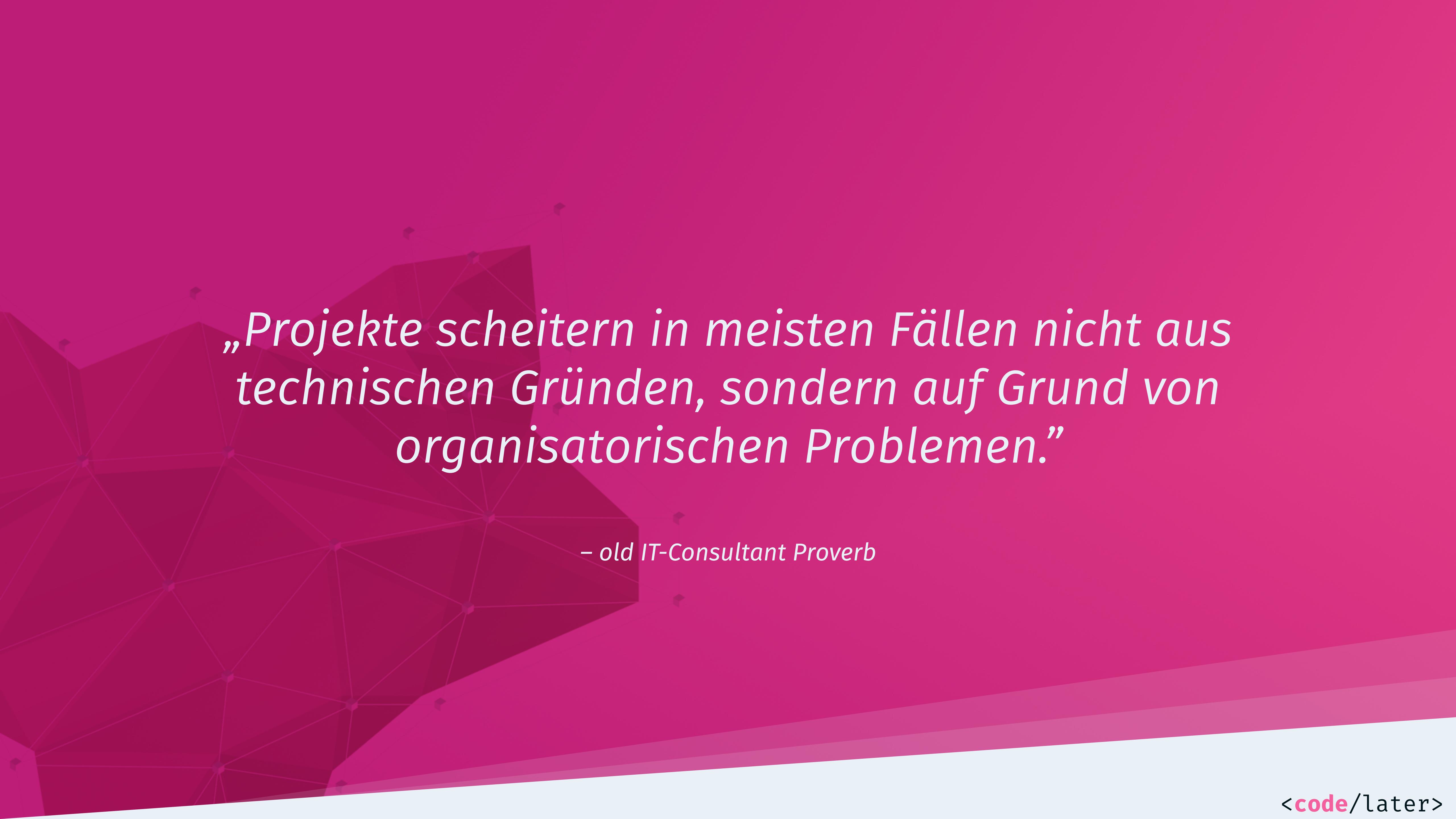
Du

Dev Team









„Projekte scheitern in meisten Fällen nicht aus technischen Gründen, sondern auf Grund von organisatorischen Problemen.“

– old IT-Consultant Proverb



„In that context, anyone can easily contribute changes to a project's source code, which aligns with agile principles and helps to enable continuous delivery.”

- https://www.ibm.com/cloud/garage/content/culture/practice_social_coding

„Demokratisierung“ der Softwareentwicklung

Und davor?

- Auch vor git und GitHub
 - wurde Software nicht nur von Einzelpersonen entwickelt
 - gab es Versionskontrollsysteme
 - gab es Möglichkeiten sich auszutauschen und Diskussionen zu führen
 - gab es zahlreiche Open Source Projekte mit vielen Beteiligten

Aber...

- Hohe Zugangshürden ("*Gated Communities*") – technisch wie sozial
- Inflexible Versionskontrolle
- Kommunikation verteilt über Bugtracker, Mailinglisten und Chats deren Inhalte und Verläufe nicht leicht zugänglich oder durchsuchbar waren

Früher

Früher → Heute

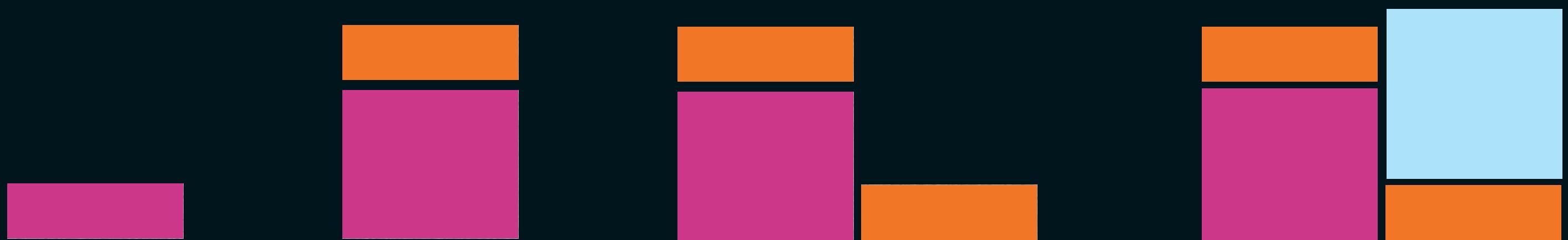


WAS IST HIER
PASSIERT?!

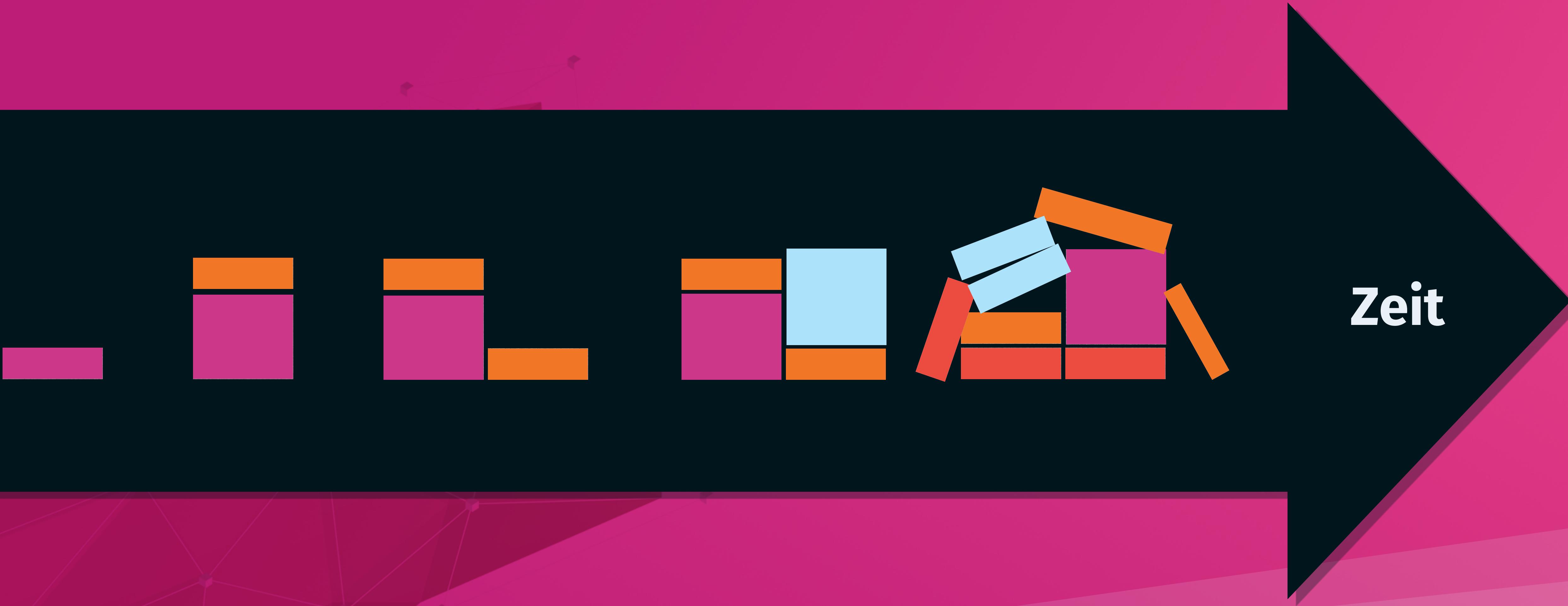
Jedes Softwareprojekt™

Jedes Softwareprojekt™

Zeit



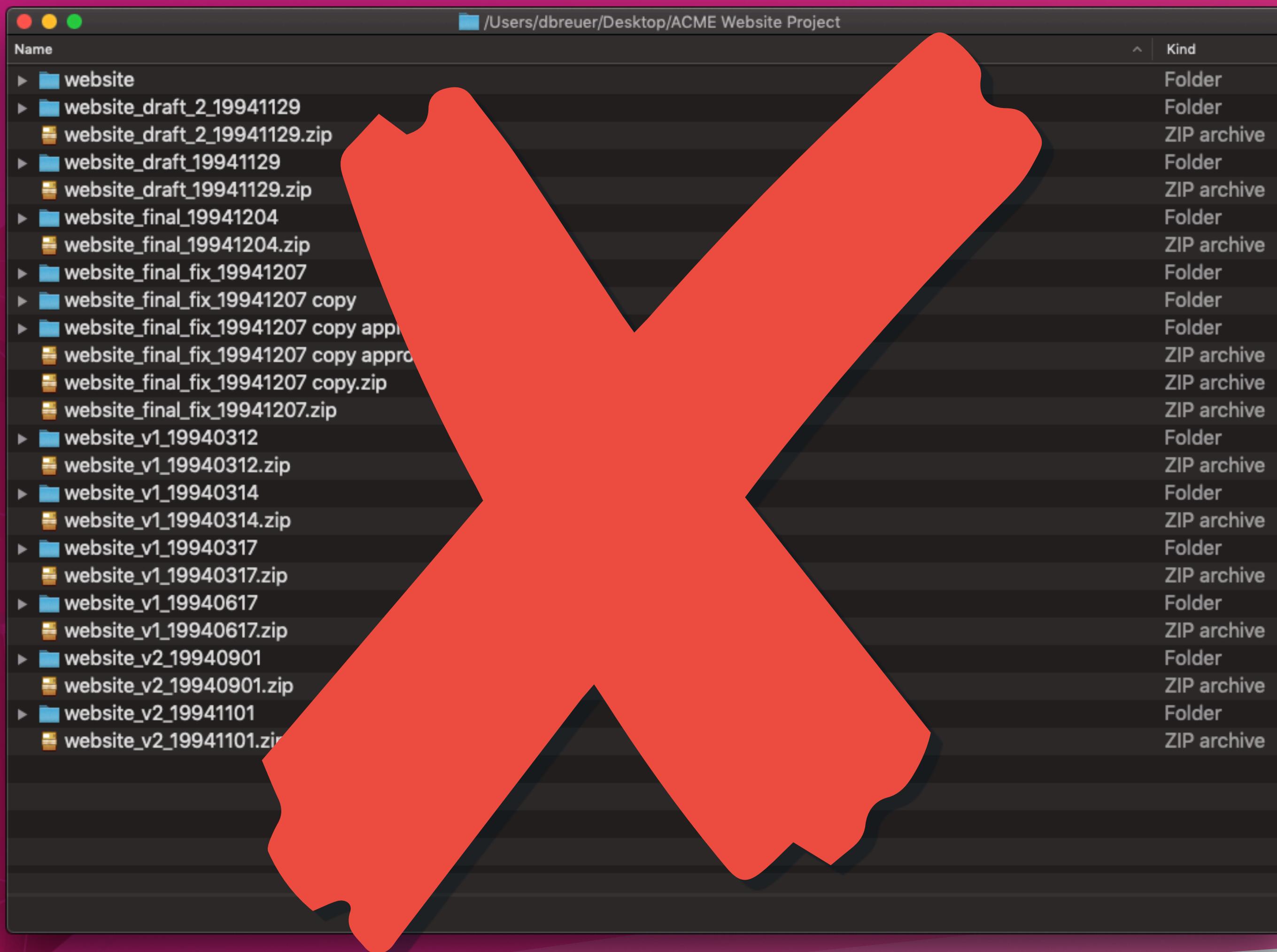
Jedes Softwareprojekt™



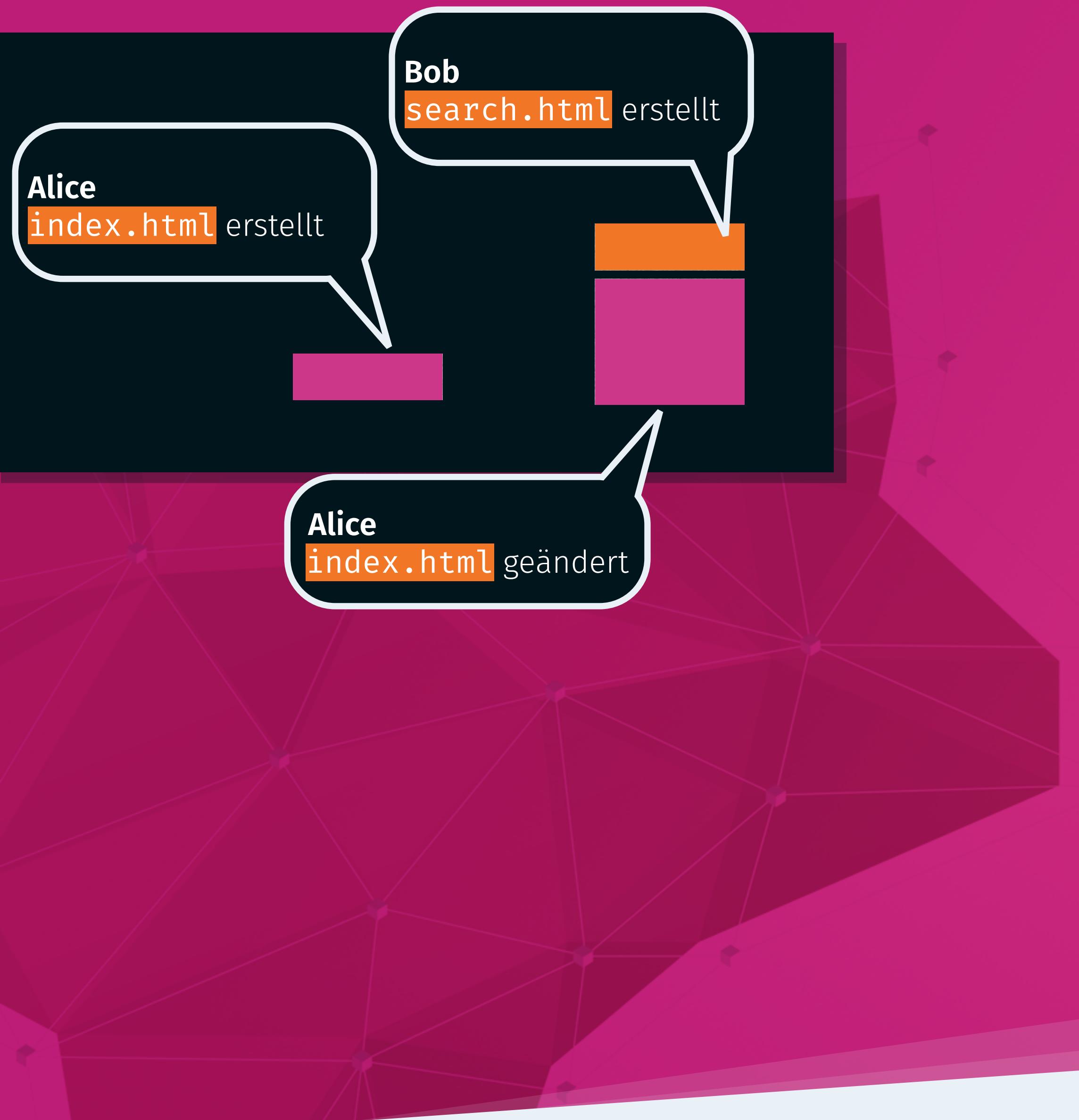
Versionskontrolle?

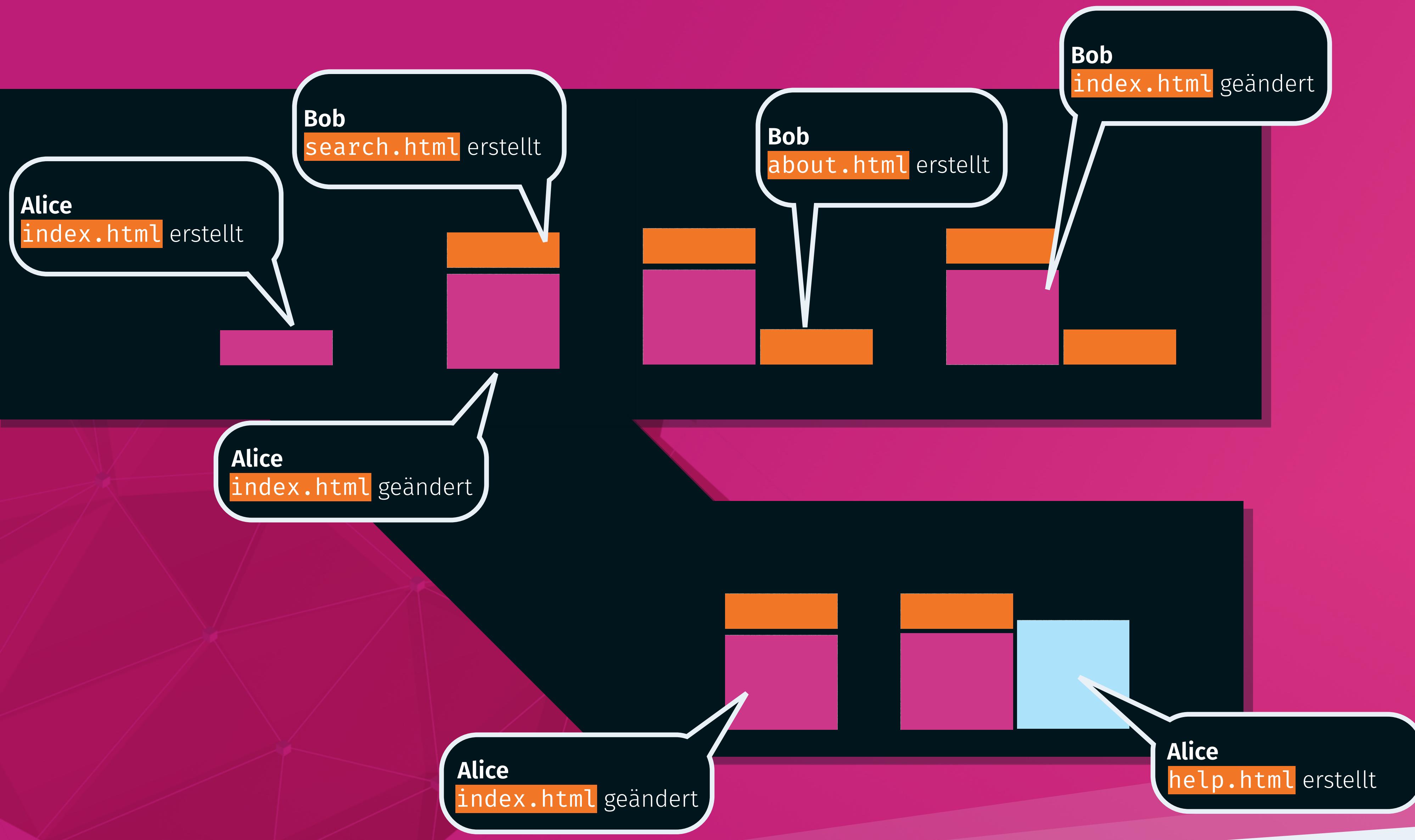
Name	Kind
▶ website	Folder
▶ website_draft_2_19941129	Folder
website_draft_2_19941129.zip	ZIP archive
▶ website_draft_19941129	Folder
website_draft_19941129.zip	ZIP archive
▶ website_final_19941204	Folder
website_final_19941204.zip	ZIP archive
▶ website_final_fix_19941207	Folder
▶ website_final_fix_19941207 copy	Folder
website_final_fix_19941207 copy approved	ZIP archive
website_final_fix_19941207 copy approved.zip	ZIP archive
website_final_fix_19941207 copy.zip	ZIP archive
website_final_fix_19941207.zip	ZIP archive
▶ website_v1_19940312	Folder
website_v1_19940312.zip	ZIP archive
▶ website_v1_19940314	Folder
website_v1_19940314.zip	ZIP archive
▶ website_v1_19940317	Folder
website_v1_19940317.zip	ZIP archive
▶ website_v1_19940617	Folder
website_v1_19940617.zip	ZIP archive
▶ website_v2_19940901	Folder
website_v2_19940901.zip	ZIP archive
▶ website_v2_19941101	Folder
website_v2_19941101.zip	ZIP archive

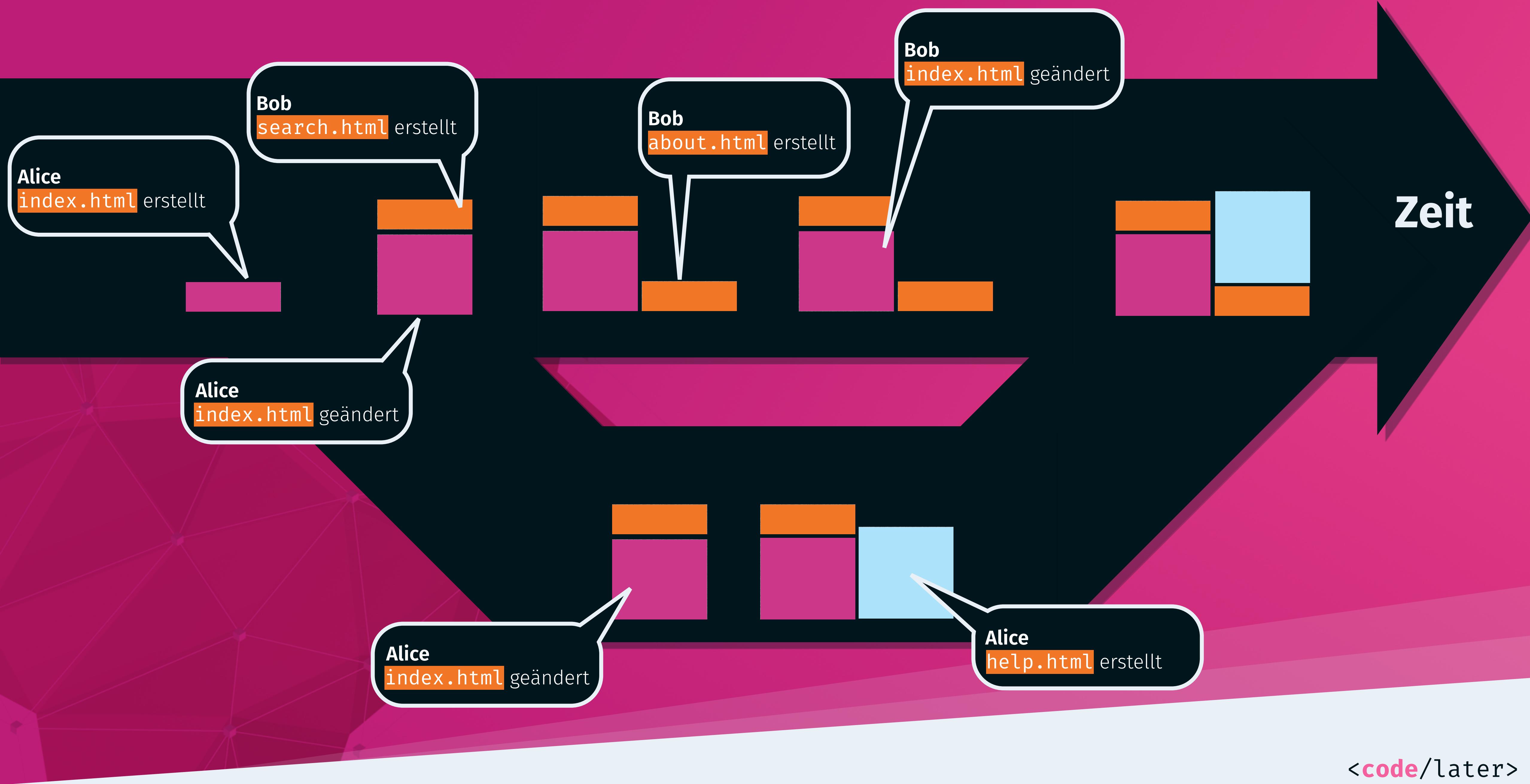
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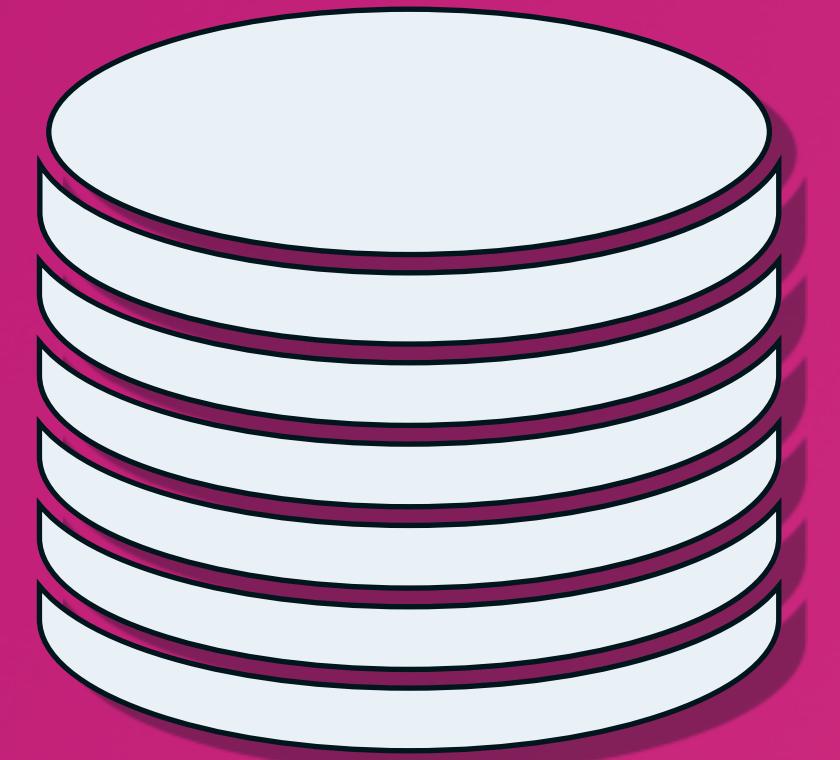
- Warum haben wir X gemacht?
- Wo kommt der Bug her?
- Wie war die Variante von letzter Woche?
- Ich hatte an Y auch was geändert!
- Lösung: Versionskontrollsystem (VCS)





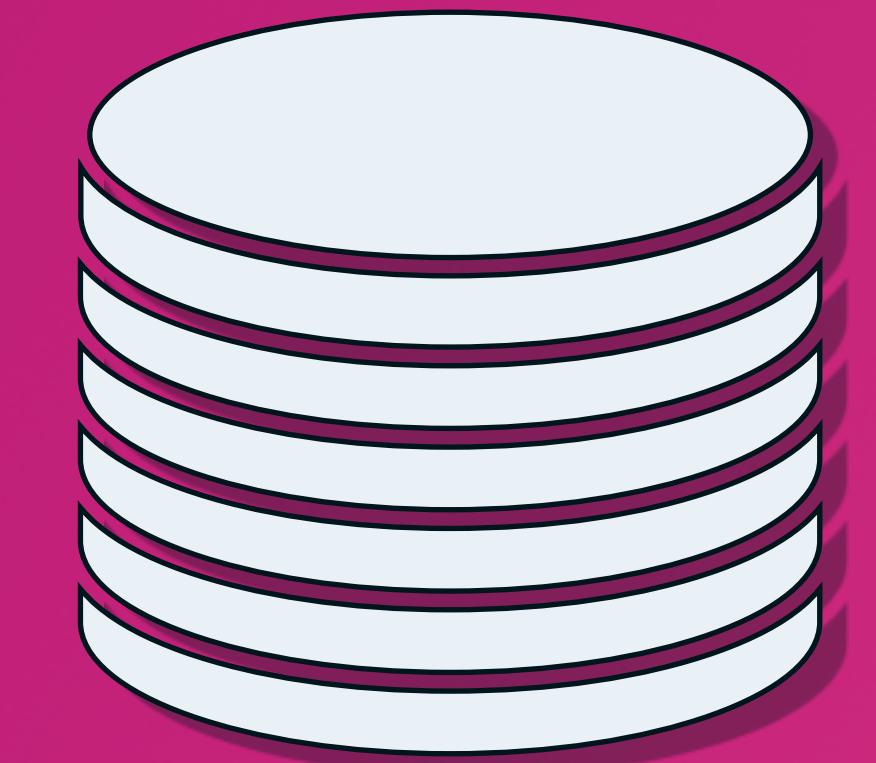


- Mit CVS seit Ende der 1980er möglich
- Deutliche Verbesserungen durch Subversion in den frühen 2000er Jahren
- Probleme:
 - Zentrales Repository mit zentraler Zugriffskontrolle
 - Erstellen von Branches war „teuer“ und langsam



Zentrales
Repository

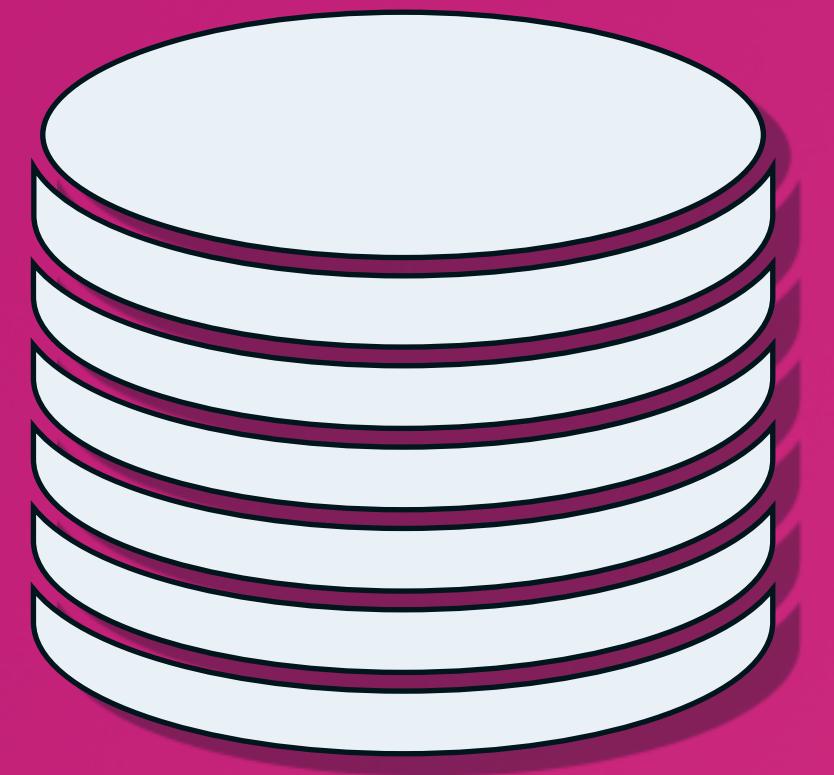
Lösung: Schreibzugriff für alle!



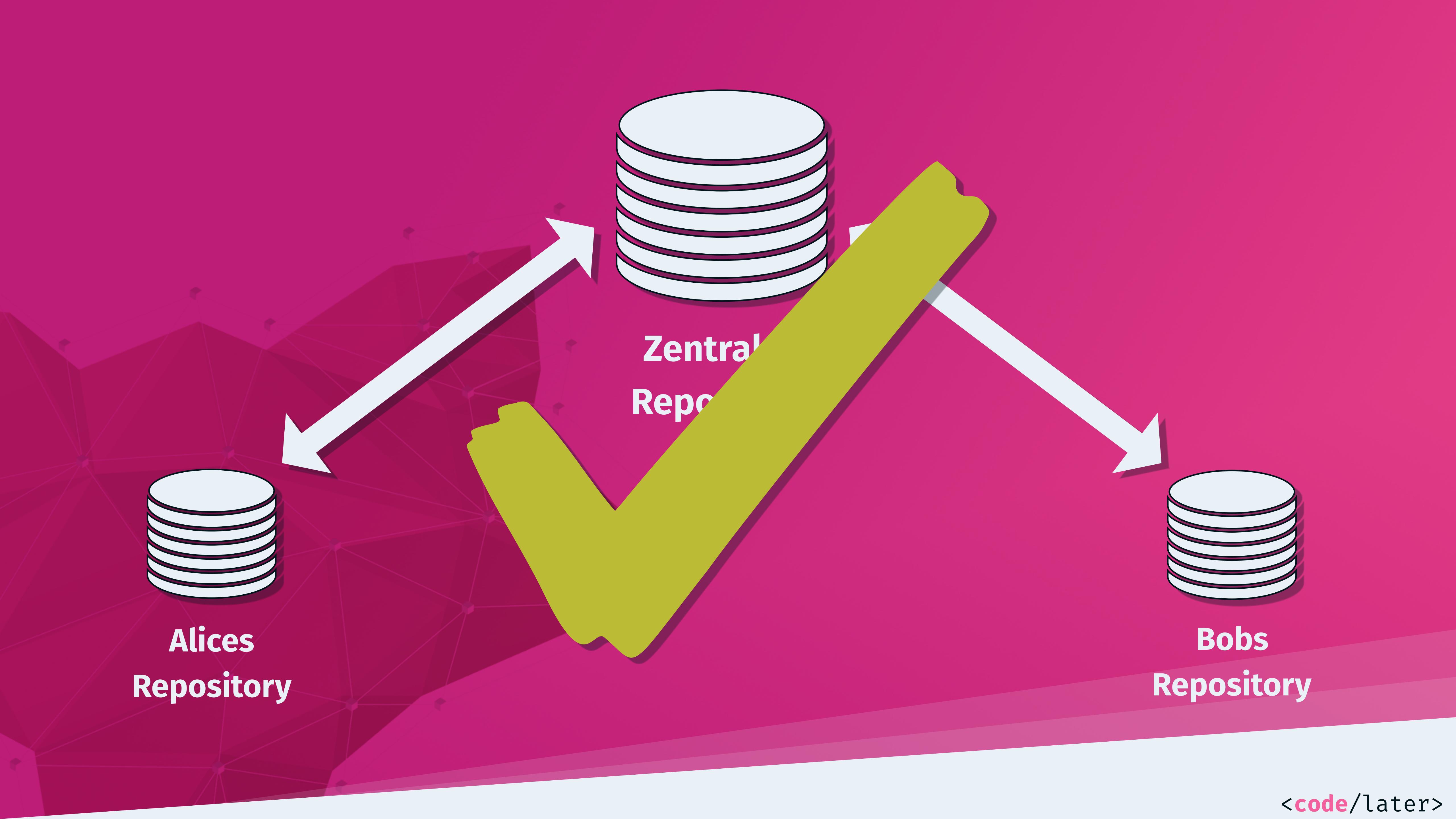
Zentrales
Repository

Lösung: Schreibzugriff für alle!





Zentrales Repository



The Rise of git

A photograph of a sunset or sunrise over a range of mountains. The sky is a warm orange and yellow, transitioning to darker shades at the bottom. The sun is a bright yellow circle at the horizon. In the foreground, dark silhouettes of mountain peaks are visible against the bright sky. Overlaid on the upper half of the image is the text "The Rise of git". "The Rise of" is in a white, sans-serif font, and "git" is in a large, bold, black, lowercase sans-serif font.



STOP

Checkliste

- git installiert?
- SSH Client installiert?
- SSH-Key vorhanden?
- Zugang zur ADVM1 mit SSH-Key?
- SSH Agent?
- Terminal Emulator bereit?
- vim?

Was wir (erstmal) nicht brauchen



git GUI Clients

Was wir (erstmal) nicht brauchen



git GUI Clients



“Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.”

- <https://git-scm.com/>

A practical* introduction to git

*Rechner auf und mitmachen



Aufgabe

- git Cheat Sheet
- In Markdown
- Erstellung im Verlauf der Veranstaltung
- Am Ende als Webseite (auf GitHub)

Einschub: Markdown

- .md: Markdown Format
- Text zu HTML Konvertierung
- Einfach zu schreiben
- <https://daringfireball.net/projects/markdown/>

```
# This is a Header
```

Some basic text.

- * We
- * got
- * lists
- * as
- * well!

You can [[link](http://www.google.de)](<http://www.google.de>) to web sites.

And what makes it great for code related documents,
you can easily embed some code:

```
```ruby
class Person
 attr_accessor :name

 def initialize(name)
 @name = name
 end
end
```
```

And of course [[there is much more](https://daringfireball.net/projects/markdown/)](<https://daringfireball.net/projects/markdown/>)!

```
<h1 id="thisisaheader">This is a Header</h1>
```

```
<p>Some basic text.</p>
```

```
<ul>
  <li>We</li>
  <li>got</li>
  <li>lists</li>
  <li>as</li>
  <li>well!</li>
</ul>
```

```
<p>You can <a href="http://www.google.de">link</a> to web sites.</p>
```

```
<p>And what makes it great for code related documents, you can easily embed some code:</p>
```

```
<pre><code class="ruby">class Person
  attr_accessor :name

  def initialize(name)
    @name = name
  end
end</code></pre>
```

```
<p>And of course<a href="https://daringfireball.net/projects/markdown/">there is much more</a>!</p>
```

GitHub Flavored Markdown

<https://guides.github.com/features/mastering-markdown/#GitHub-flavored-markdown>



Teil 1: git im Terminal

```
$ git help
usage: git [--version] [--help] [-C <path>] [-c name=value]
          [--exec-path[=<path>]] [--html-path] [--man-path] [--info-path]
          [-p | --paginate | --no-pager] [--no-replace-objects] [--bare]
          [--git-dir=<path>] [--work-tree=<path>] [--namespace=<name>]
          <command> [<args>]
```

These are common Git commands used in various situations:

start a working area (see also: git help tutorial)

clone	Clone a repository into a new directory
init	Create an empty Git repository or reinitialize an existing one

work on the current change (see also: git help everyday)

add	Add file contents to the index
mv	Move or rename a file, a directory, or a symlink
reset	Reset current HEAD to the specified state
rm	Remove files from the working tree and from the index

examine the history and state (see also: git help revisions)

bisect	Use binary search to find the commit that introduced a bug
grep	Print lines matching a pattern
log	Show commit logs
show	Show various types of objects
status	Show the working tree status

grow, mark and tweak your common history

branch	List, create, or delete branches
checkout	Switch branches or restore working tree files
commit	Record changes to the repository
diff	Show changes between commits, commit and working tree, etc
merge	Join two or more development histories together
rebase	Reapply commits on top of another base tip
tag	Create, list, delete or verify a tag object signed with GPG

collaborate (see also: git help workflows)

fetch	Download objects and refs from another repository
pull	Fetch from and integrate with another repository or a local branch
push	Update remote refs along with associated objects

'git help -a' and 'git help -g' list available subcommands and some concept guides. See 'git help <command>' or 'git help <concept>' to read about a specific subcommand or concept.

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$ git help
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Setup (Einmalig)

```
$ git config --global user.name "Ada Lovelace"  
$ git config --global user.email ada.lovelace@example.com  
$ git config --global core.editor vim  
$ █
```

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lokal für ein Repository



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$ █
```

Ohne `--global` ist die Option
lokal für ein Repository



Globale Konfiguration bearbeiten:

`$ vim ~/.gitconfig`


```
$ git init  
Initialized empty Git repository in /home/dbreuer/git-cheat-sheet/.git/  
$ █
```

```
$ git init  
Initialized empty Git repository in /home/dbreuer/git-cheat-sheet/.git/  
$ █
```



Konfiguration im Projekt:
\$ vim .git/config


```
$ cd git-cheat-sheet
```

```
$ vim README.md
```

```
$ git status
```

```
On branch master
```

Initial commit

Untracked files:

(use "git add <file>..." to include in what will be committed)

README.md

nothing added to commit but untracked files present (use "git add" to track)

```
$ |
```



```
$ git commit -m "Added README.md"
```

```
[master (root-commit) 83328a8] Added README.md
 1 file changed, 3 insertions(+)
 create mode 100644 README.md
```

```
$ git status
```

```
On branch master
```

```
nothing to commit, working directory clean
```

```
$ █
```

<code/later>

Working Directory

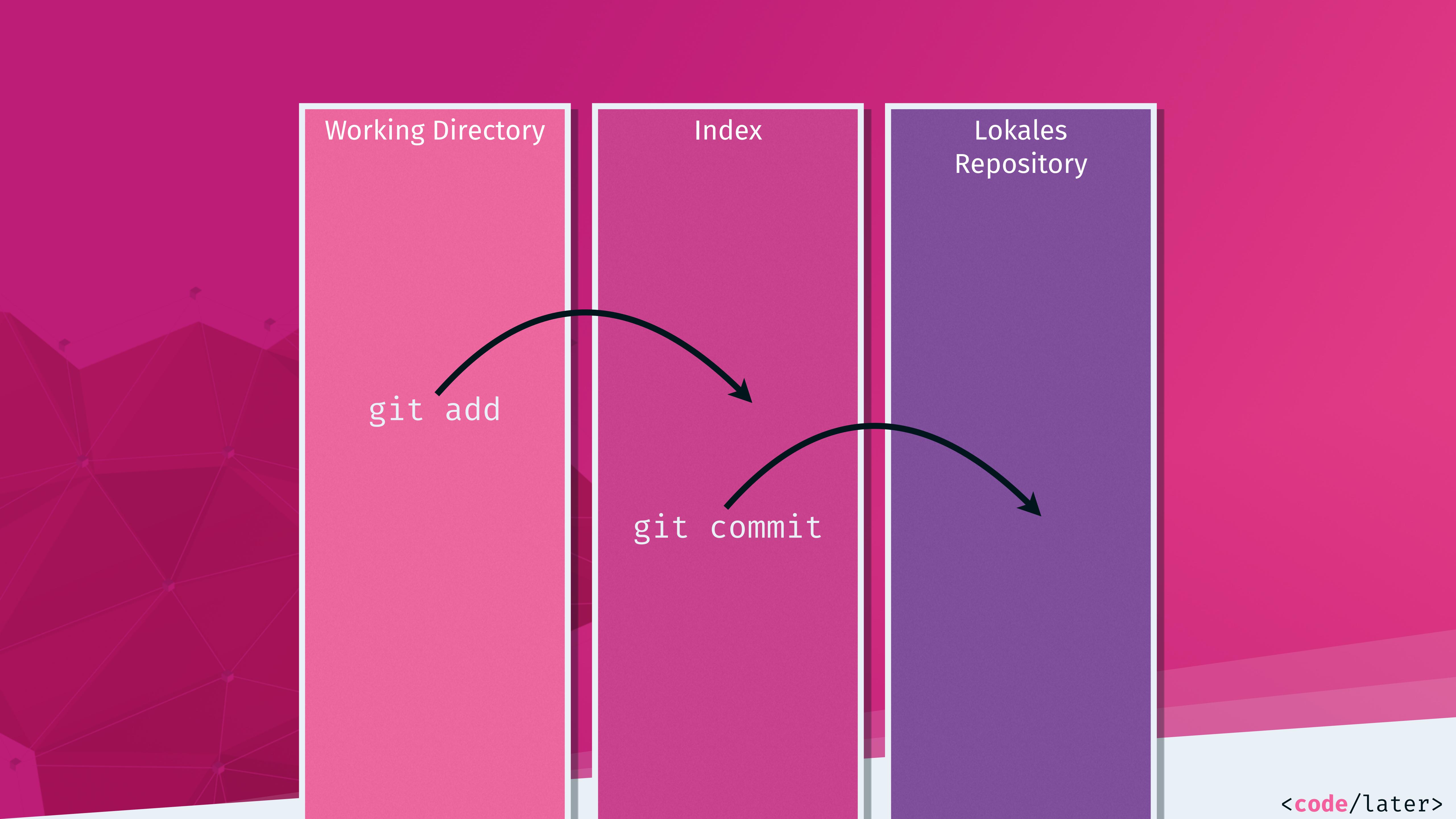
<code/later>

Working Directory

Index

git add





Working Directory

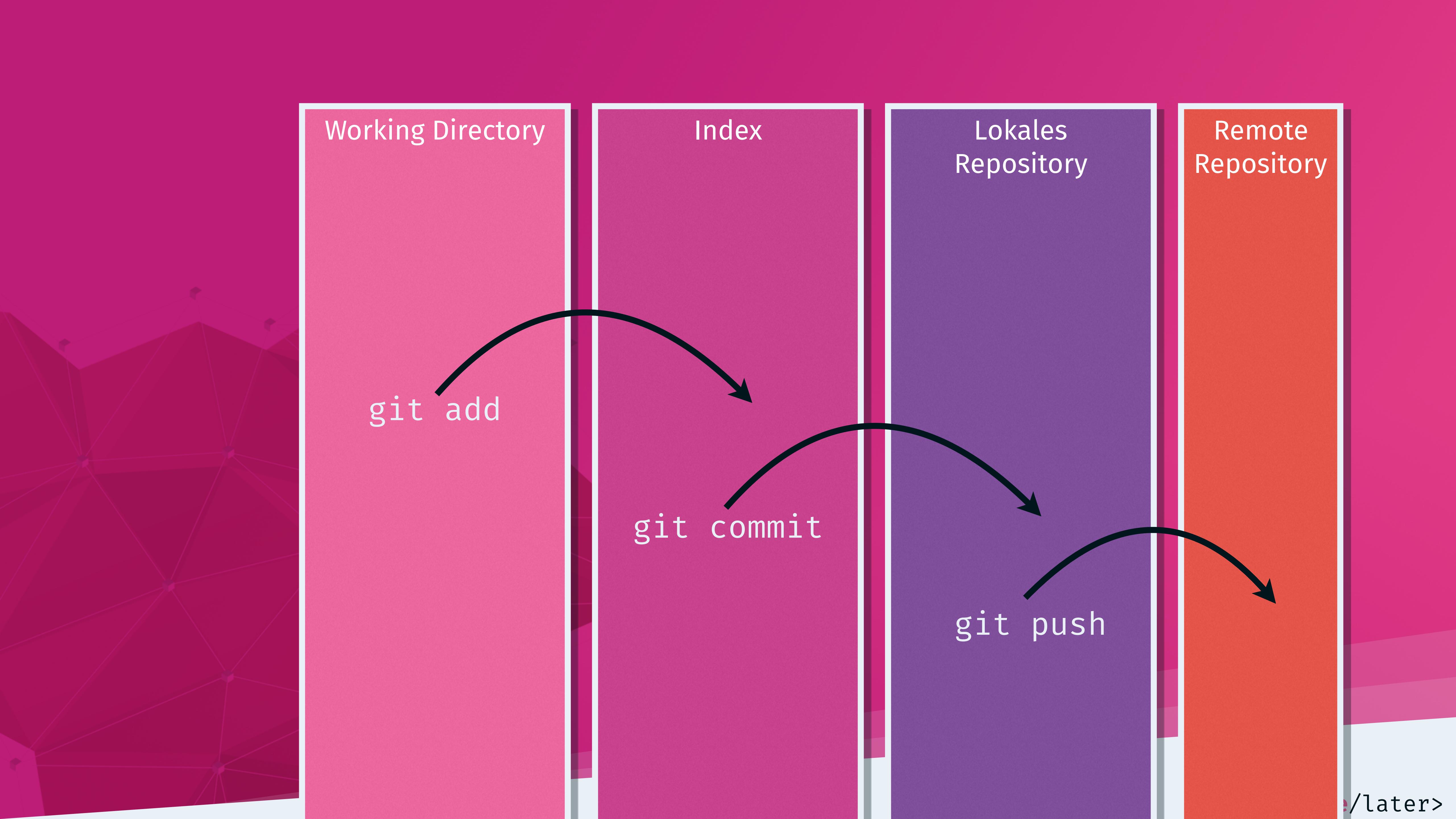
Index

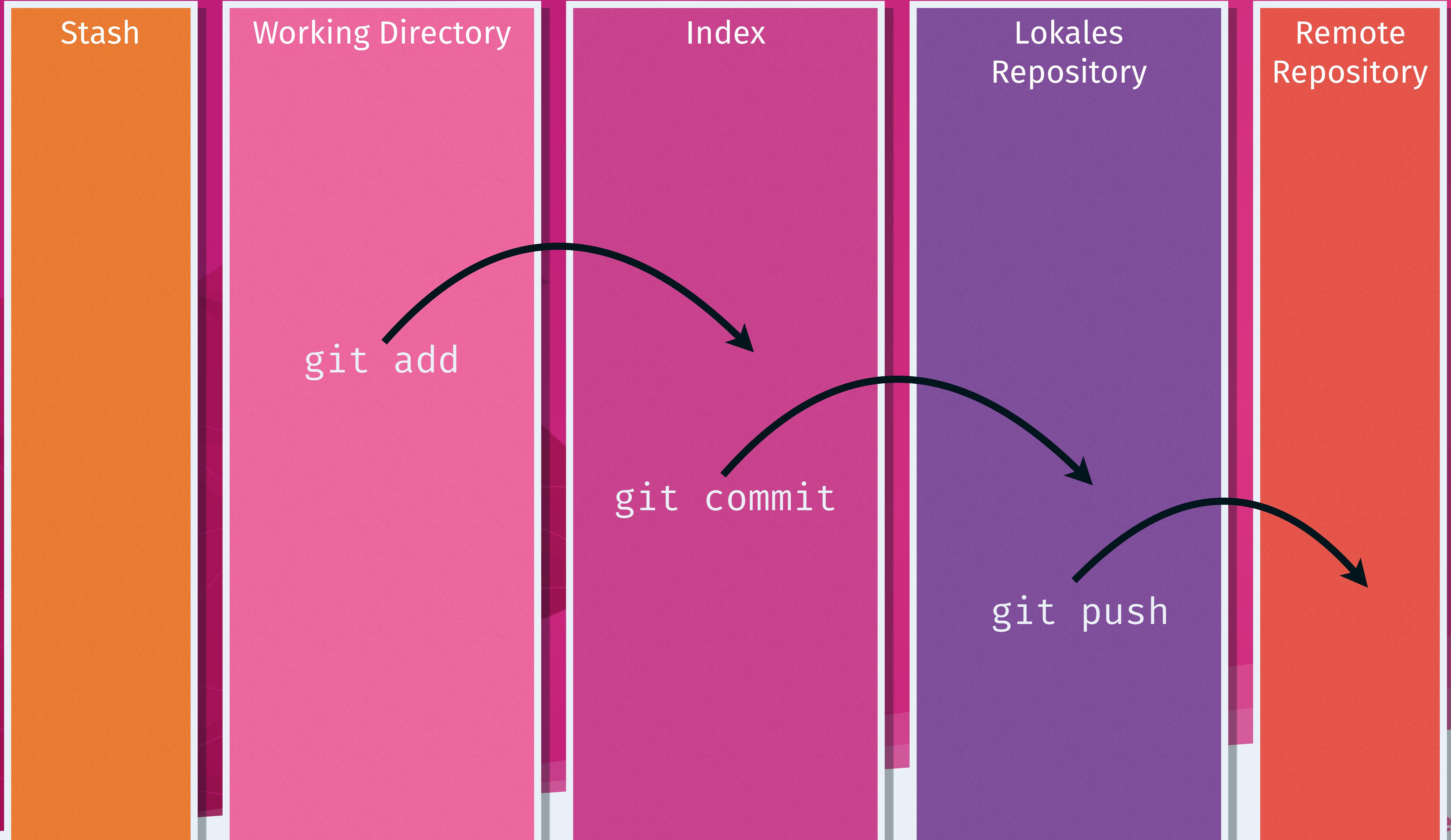
Lokales
Repository

`git add`

`git commit`

<code/later>





>/later>


```
$ git log

* 2b0cee0eba - (HEAD -> master, origin/master, origin/HEAD) contributes.css.customData for #66414 (64 minutes ago) <Pine Wu>
* 3703d71c81 - Merge pull request #64733 from GabeDeBacker/user/gabriel/noInheritEnv (85 minutes ago) <Daniel Imms>
| \
| * 73a6a2f465 - Comment improvements (2 hours ago) <Daniel Imms>
| * 7441f7905f - Merge remote-tracking branch 'origin/master' into pr/GabeDeBacker/64733 (2 hours ago) <Daniel Imms>
| | \
| * | e1d8493f28 - Implement creating a razzle terminal with approved API changes (3 hours ago) <Gabriel DeBacker>
* | | 3e8028e5d8 - Merge pull request #66228 from Microsoft/octref/customCSSData (88 minutes ago) <Pine>
| \ \ \
| * | | 67973726b6 - (origin/octref/customCSSData) Upgrade css service version (2 hours ago) <Pine Wu>
| * | | 9efac59949 - Improve custom data reading (2 days ago) <Pine Wu>
| * | | 70696746b0 - Address feedback (2 days ago) <Pine Wu>
| * | | 9d8216aecf - Remove extra settings.json (3 days ago) <Pine Wu>
| * | | f7894236ee - css.experimental.customData (3 days ago) <Pine Wu>
* | | | 1dbdc3ccc8 - Merge pull request #66356 from Microsoft/tyriar/general_env_clean (2 hours ago) <Daniel Imms>
| \ \ \ \
| | | |
| / | | |
* | | | 76c2fa2421 - Merge remote-tracking branch 'origin/master' into tyriar/general_env_clean (2 hours ago) <Daniel Imms>
| \ \ \ \
| | | |
| / | | |
* | | | c42df918e5 - Merge pull request #66306 from Microsoft/octref/html-workspace-folders (2 hours ago) <Pine>
| \ \ \ \
| * | | | 177b805150 - (origin/octref/html-workspace-folders) Handle workspace folder reading (2 days ago) <Pine Wu>
* | | | | 00dd098dc6 - Mark isLocationLinkFixed as internal (2 hours ago) <Matt Bierner>
* | | | | 2f5d88899d - Make NoContentResponse an constant instead of a class (2 hours ago) <Matt Bierner>
* | | | | 60f232b246 - Include TypeScript version in errors logged to dev tools (2 hours ago) <Matt Bierner>
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```

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$
```

SHA-1 Prüfsumme über Content + Header



„Git is a content-addressable filesystem.”

- <https://git-scm.com/book/en/v2/Git-Internals-Git-Objects>

„Git is a content-addressable filesystem.”



- git ist ein einfacher Key-Value-Store
- Für jeden Value erzeugt es einen Key
- Jeder Key ist eindeutig
- Ein Value ist bspw. ein Commit
- Eine Header Information ist bspw. der Autor oder der Vorgänger-Commit
- Alle Daten befinden sich im lokalen .git Verzeichnis

```
$ ls -lsa
total 188
0 drwxr-xr-x 7 dbreuer staff      238 Apr 20 11:42 .
0 drwxr-xr-x 4 dbreuer staff      136 Apr 20 11:27 ..
8 -rw-r--r-- 1 dbreuer staff     6148 Apr 20 11:42 .DS_Store
0 drwxr-xr-x 12 dbreuer staff     408 Apr 20 11:43 .git
4 -rw-r--r-- 1 dbreuer staff     390 Apr 20 11:42 README.md
4 -rw-r--r-- 1 dbreuer staff     210 Apr 20 11:42 index.html
172 -rw-r--r-- 1 dbreuer staff 172684 Apr 20 11:39 taco.gif
```

```
$ ls -lsa
total 188
0 drwxr-xr-x 7 dbreuer staff 238 Apr 20 11:42 .
0 drwxr-xr-x 4 dbreuer staff 136 Apr 20 11:27 ..
8 -rw-r--r-- 1 dbreuer staff 6148 Apr 20 11:42 .DS_Store
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4 -rw-r--r-- 1 dbreuer staff 210 Apr 20 11:42 index.html
172 -rw-r--r-- 1 dbreuer staff 172684 Apr 20 11:39 taco.gif
```

git

```
$ ls -ls .git/objects
total 20
4 -rw-r--r-- 1 dbreuer staff 277 Jan 11 23:01 COMMIT_EDITMSG
4 -rw-r--r-- 1 dbreuer staff 23 Jan 11 16:56 HEAD
4 -rw-r--r-- 1 dbreuer staff 112 Jan 11 16:56 config
4 -rw-r--r-- 1 dbreuer staff 73 Jan 11 16:56 description
0 drwxr-xr-x 13 dbreuer staff 416 Jan 11 16:56 hooks
4 -rw-r--r-- 1 dbreuer staff 137 Jan 11 22:59 index
0 drwxr-xr-x 3 dbreuer staff 96 Jan 11 16:56 info
0 drwxr-xr-x 4 dbreuer staff 128 Jan 11 16:57 logs
0 drwxr-xr-x 11 dbreuer staff 352 Jan 11 23:01 objects
0 drwxr-xr-x 4 dbreuer staff 128 Jan 11 16:56 refs
```

```
$ ls -ls .git
total 0
0 drwxr-xr-x 13 dbreuer staff 416 Apr  9 22:04 .
0 drwxr-xr-x 14 dbreuer staff 448 Apr 10 17:57 ..
0 drwxr-xr-x  3 dbreuer staff  96 Apr  9 20:44 11
0 drwxr-xr-x  3 dbreuer staff  96 Apr  9 20:44 19
0 drwxr-xr-x  3 dbreuer staff  96 Apr  9 20:44 29
0 drwxr-xr-x  3 dbreuer staff  96 Apr  9 22:04 34
0 drwxr-xr-x  3 dbreuer staff  96 Apr  9 22:04 3a
0 drwxr-xr-x  3 dbreuer staff  96 Apr  9 22:04 6b
0 drwxr-xr-x  3 dbreuer staff  96 Apr  9 21:04 88
0 drwxr-xr-x  3 dbreuer staff  96 Apr  9 21:04 8a
0 drwxr-xr-x  3 dbreuer staff  96 Apr  9 21:04 d6
0 drwxr-xr-x  2 dbreuer staff  64 Apr  9 20:43 info
0 drwxr-xr-x  2 dbreuer staff  64 Apr  9 20:43 pack
```

Any content hash...

34d87efa84c90b5c981df2eb555dd32f6dc18aca

Any content hash...

34d87efa84c90b5c981df2eb555dd32f6dc18aca

.git/objects/34/d87efa84c90b5c981df2eb555dd32f6dc18aca

Any content hash...

34d87efa84c90b5c981df2eb555dd32f6dc18aca

.git/objects/34/d87efa84c90b5c981df2eb555dd32f6dc18aca

Any content hash...

34d87efa84c90b5c981df2eb555dd32f6dc18aca

.git/objects/34/d87efa84c90b5c981df2eb555dd32f6dc18aca

```
$ less .git/objects/34/300690d5791e1e16d94855ddba156170526ca7  
".git/objects/34/300690d5791e1e16d94855ddba156170526ca7" may be a binary file.  
See it anyway?
```

```
$ less .git/objects/34/300690d5791e1e16d94855ddba156170526ca7
".git/objects/34/300690d5791e1e16d94855ddba156170526ca7" may be a binary file.
See it anyway?
```

```
x^A<95><90>Ko<82>@^\{<DE>0+<BB><8B>KR<9B><F2>X<95><A2>F<F1><85>GX^V<DC>*H^@^_鈜<B5>I0<BD>tn3<99>I~^Yy,
<DD>^B%<BD><87><B6>V
HT<9A>R<92>^/<CB>^Ha )K8<E1>)f^
<A6>V<8F>2<AC><98><85><AA><B8>Ve^K<A9><C9>2.<BB>)<ED>fC<A9>iY<92><A7>^Y&^F1<8D>
<98>^R`<88><C2>&IQ|jw<C7>^Z<]<EF><C1><A9><D5>I<D5><F0>R<C4><FA><F0><96><DC>
><BE>B<97>1<CA>)6^X<85>^N60F<F2>N<D7><FF><DB><E5>U<DE><E8>^`^<BF>勧?
<85><D9>p^F^K^?8<B5><97><AB>P<DC>s^D^H<F4>^@^K<DB>^Q<AE><ED><E0><8D>?
^0<D7>^`<E2><N<AB><B6><D9>L=<BF><C8><C6><DB>pY<F2><F2>
<BD><B9><F2><F9>M<82>0<F3><9C>`<BF>9^B>_*<FB><FD>^R<D4><CF>^W<8B>P<FB>z^]m&<FB>
F7j?!`v<B6><AB>|
<D9><F5><A3>, <DB>v<A2><E1><C2>X^Q<D9>^`*<91>{<DA>^`<AD><FA>^H<FA><A3>A<C5><D0>^
0<AB><98>z^?<91><A2><E2>v<B5>><96>0<D6>R<95><8D>^B]B(lo"<D0>^W<83>y
objects/34/300690d5791e1e16d94855ddba156170526ca7 (END)
```

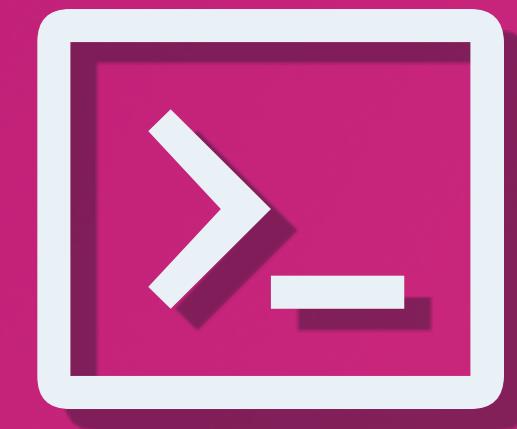
```
$ less .git/objects/34/300690d5791e1e16d94855ddba156170526ca7  
".git/objects/34/300690d5791e1e16d94855ddba156170526ca7" may be a binary file.  
See it anyway?
```

A close-up shot of a man with short brown hair, looking slightly upwards and to his right with a serious expression. He is wearing a dark, collared shirt. The background is blurred, showing what appears to be a dimly lit interior or a hallway.









To the Terminal...

Branches



```
$ git branch  
* master
```



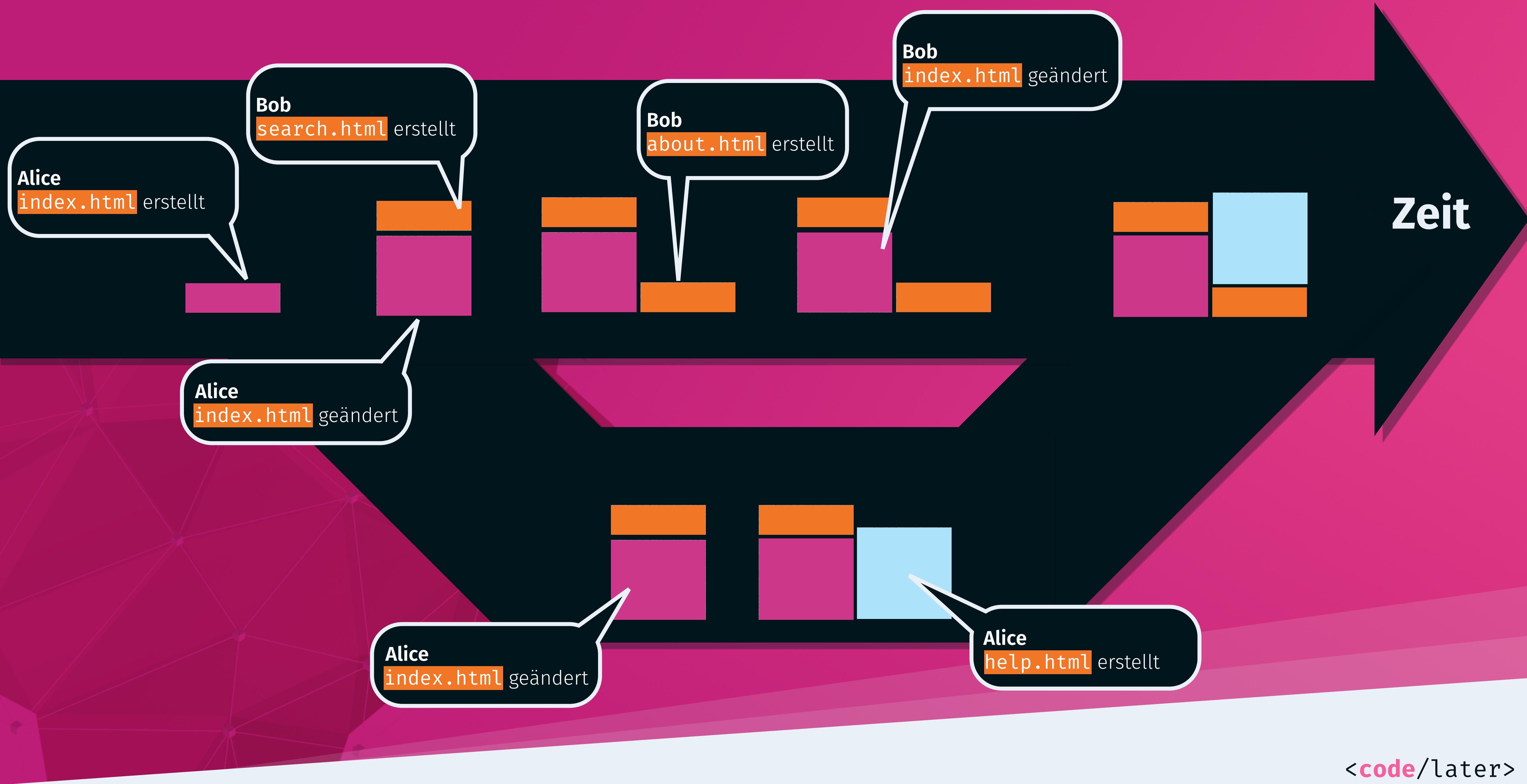
Photo by [Ben James](#) on [Unsplash](#)



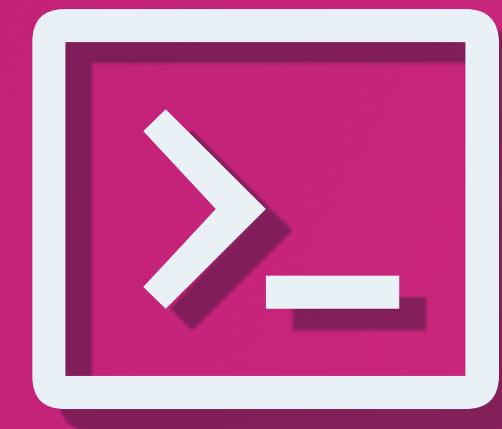
Photo by [Manuel Cosentino](#) on [Unsplash](#)

Branches

- Änderungen unabhängig von anderen durchführen
- Raum für Experimente
- Mehrere (von einander unabhängige) Änderungen "gleichzeitig" bearbeiten
- Bereitstellung für Team-Mitglieder (Kollaboration!)



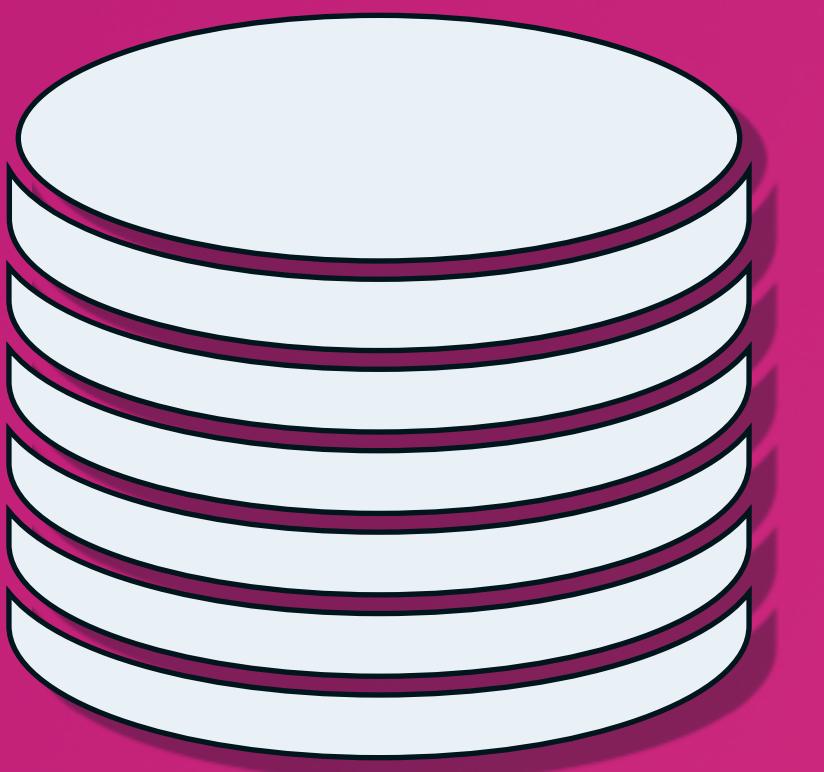
```
$ git checkout -b add-git-branch
Switched to a new branch 'add-git-branch'
$ git branch
* add-git-branch
  master
```



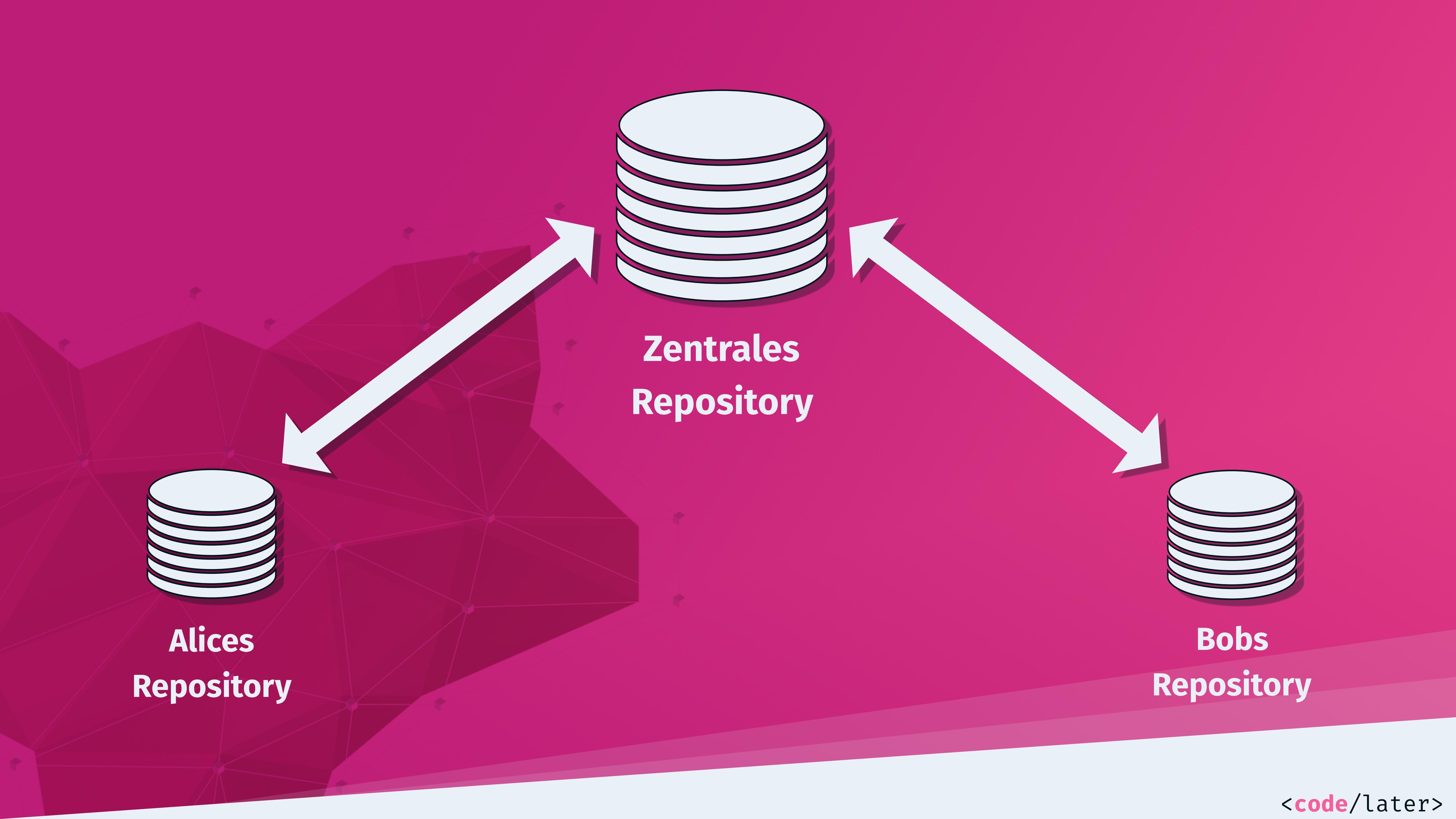
To the Terminal...



Collaborate



Alices Repository



**Alices
Repository**

**Zentrales
Repository**

**Bobs
Repository**

Behold... The Internet

- git clone
- git pull
- git push
- (git fetch)

OK, time for some...



GitHub

A close-up photograph of a man with a shaved head, wearing a dark suit jacket over a light-colored shirt. He is looking slightly to his left with a serious expression. The background is dark and out of focus.

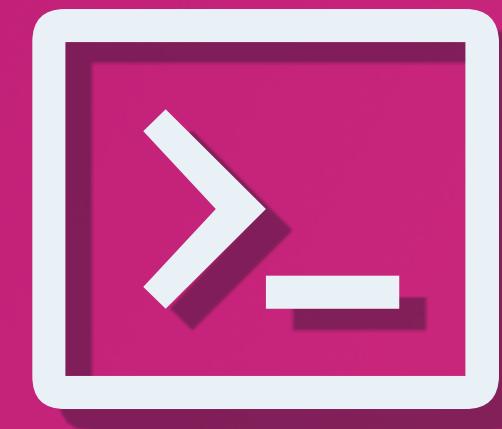
Not. Yet.

A close-up photograph of a man with a shaved head, wearing a dark suit jacket over a light-colored shirt. He is looking slightly to his left with a serious expression. The background is dark and out of focus.

Not. Yet.

git – Batteries included

- git request-pull
- git format-patch
- git send-email
- git am
- git daemon
- git instaweb



To the Terminal...



<code/later>



<code/later>

Teil 2

GitHub

GitHub

GitLab



Bitbucket

git Forges

- Hosting von git Repositories
- Verwaltung von Zugriffsrechten
- Bugtracker
- Diskussionsplattform für Code-Änderungen
- Code Editor
- Release Management
- und vieles mehr...

sharkdp/hexyl: A command-line hex viewer

Search or jump to... Pull requests Issues Trending Explore

sharkdp / hexyl Watch 42 Star 2,852 Fork 59

Code Issues 8 Pull requests 3 Wiki Releases 3 More

A command-line hex viewer

command-line tool binary-data hexadecimal rust

54 commits 2 branches 3 releases 9 contributors View license

Branch: master Create new file Find file Clone or download

sharkdp Fix #25 Latest commit 9831128 2 days ago

ci	Add ci scripts	2 months ago
doc	Update logo	2 months ago
src	Fix #25	2 days ago
.gitignore	Initial working version of a hex viewer	2 months ago
.travis.yml	Re-enable Windows build	2 days ago
Cargo.lock	Bump version	2 days ago
Cargo.toml	Bump version	2 days ago
LICENSE-APACHE	Initial working version of a hex viewer	2 months ago
LICENSE-MIT	Initial working version of a hex viewer	2 months ago
README.md	Bump version	2 days ago

hexyl

sharkdp/hexyl: A command-line hex viewer

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54 commits 2 branches 3 releases 9 contributors View license

Branch: master Create new file Find file Clone or download

sharkdp Fix #25 Latest commit 9831128 2 days ago

Code Browser

	Commit Message	Date
ci	Add ci scripts	2 months ago
doc	Update logo	2 months ago
src	Fix #25	2 days ago
.gitignore	Initial working version of a hex viewer	2 months ago
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hexyl

sharkdp/hexyl: A command-line hex viewer

GitHub, Inc. (US) | https://github.com/sharkdp/hexyl

Search or jump to... Pull requests Issues Trending Explore

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Code Issues 8 Pull requests 3 Wiki Releases 3 More

A command-line hex viewer

command-line tool binary-data hexadecimal rust

54 commits 2 branches 3 releases 9 contributors View license

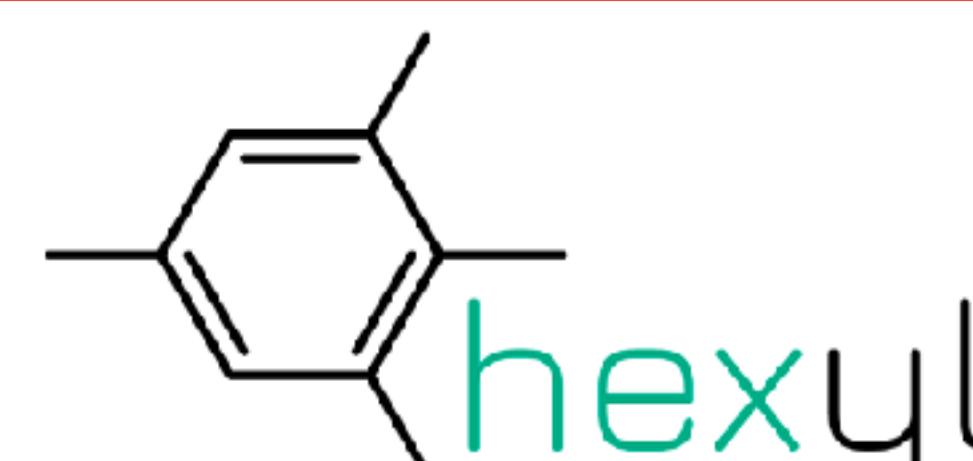
Branch: master Create new file Find file Clone or download

sharkdp Fix #25 Latest commit 9831128 2 days ago

Code Browser

	Commit Message	Date
ci	Add ci scripts	2 months ago
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LICENSE-APACHE	Initial working version of a hex viewer	2 months ago
LICENSE-MIT	Initial working version of a hex viewer	2 months ago
README.md	Bump version	2 days ago

Anzeige der README



de/later>

The screenshot shows a GitHub repository page for `sharkdp/hexyl`. The repository is described as "A command-line hex viewer". It has 54 commits, 2 branches, 3 releases, and 9 contributors. The main navigation tabs are Code, Issues (8), Pull requests (3), Wiki, Releases (3), and More. The Code tab is selected. A red box highlights the "Clone or download" button. Below the code browser, a red box highlights the "Anzeige der README" (Display of the README) section, which contains the text "hexyl" next to a chemical structure diagram.

A command-line hex viewer

command-line tool binary-data hexadecimal rust

54 commits 2 branches 3 releases 9 contributors View license

Branch: master Create new file Find file Clone or download

sharkdp Fix #25

Code Browser

	Commit Message	Time Ago
ci	Add ci scripts	2 months ago
doc	Update logo	2 months ago
src	Fix #25	2 days ago
.gitignore	Initial working version of a hex viewer	2 months ago
.travis.yml	Re-enable Windows build	2 days ago
Cargo.lock	Bump version	2 days ago
Cargo.toml	Bump version	2 days ago
LICENSE-APACHE	Initial working version of a hex viewer	2 months ago
LICENSE-MIT	Initial working version of a hex viewer	2 months ago
README.md	Bump version	2 days ago

Anzeige der README

hexyl

Readonly Kopie

Anzeige der README

de/later>

The screenshot shows a GitHub repository page for `sharkdp/hexyl`. The page has a dark theme.

- Vollwertige Kopie (Full Copy):** The top right corner shows the **Fork** button, which is highlighted with a red box.
- Readonly Kopie (Readonly Copy):** Below the fork button, the **Clone or download** button is highlighted with a red box.
- Anzeige der README (README Display):** At the bottom, the `README.md` file is displayed, featuring the `hexyl` logo.

Repository Statistics:

- 54 commits
- 2 branches
- 3 releases
- 9 contributors
- View license

Code Browser:

File / Commit	Description	Date
ci	Add ci scripts	2 months ago
doc	Update logo	2 months ago
src	Fix #25	2 days ago
.gitignore	Initial working version of a hex viewer	2 months ago
.travis.yml	Re-enable Windows build	2 days ago
Cargo.lock	Bump version	2 days ago
Cargo.toml	Bump version	2 days ago
LICENSE-APACHE	Initial working version of a hex viewer	2 months ago
LICENSE-MIT	Initial working version of a hex viewer	2 months ago
README.md	Bump version	2 days ago

Vollwertige Kopie

Bugtracker Issues 8

A command-line hex viewer

command-line tool binary-data hexadecimal rust

54 commits 2 branches 3 releases 9 contributors View license

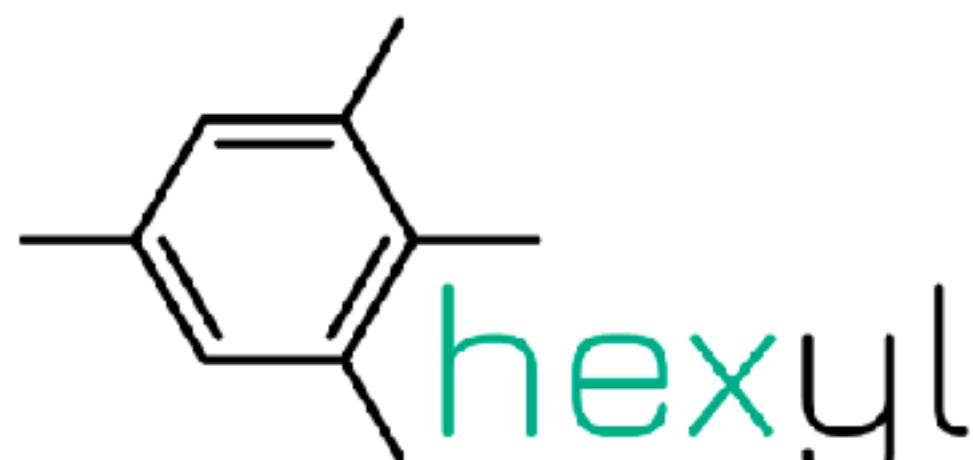
Branch: master Create new file Find file Clone or download

Code Browser

File / Commit	Description	Date
ci	Add ci scripts	2 months ago
doc	Update logo	2 months ago
src	Fix #25	2 days ago
.gitignore	Initial working version of a hex viewer	2 months ago
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Readonly Kopie

Anzeige der README

 hexyl

Vollwertige Kopie

Bugtracker Issues 8 Pull requests 3

A command-line hex viewer

command-line tool binary-data hexadecimal rust

54 commits 2 branches 3 releases 9 contributors View license

Branch: master Create new file Find file Clone or download

Code Browser

File / Commit	Description	Date
ci	Add ci scripts	2 months ago
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Cargo.toml	Bump version	2 days ago
LICENSE-APACHE	Initial working version of a hex viewer	2 months ago
LICENSE-MIT	Initial working version of a hex viewer	2 months ago
README.md	Bump version	2 days ago

Readonly Kopie

Anzeige der README

hexyl

The screenshot shows a GitHub repository page for 'sharkdp/hexyl'. At the top, there are tabs for 'Pull requests', 'Issues', 'Trending', and 'Explore'. Below that, there's a 'Bugtracker' section with 'Issues 8' and 'Pull requests 3'. A red box highlights the 'Pull requests' button. To the right, there are statistics: 54 commits, 2 branches, 3 releases, 9 contributors, and a 'View license' link. Another red box highlights the 'Clone or download' button. The main content area is titled 'Code Browser' and lists various files and their commit history. A third red box highlights the entire code browser section. At the bottom, there's a large 'hexyl' logo with a chemical structure.

Vollwertige Kopie

Bugtracker Issues 8 Pull requests 3 Wiki

A command-line hex viewer

Wiki

command-line tool binary-data hexadecimal rust

54 commits 2 branches 3 releases 9 contributors View license

Branch: master Create new file Find file Clone or download

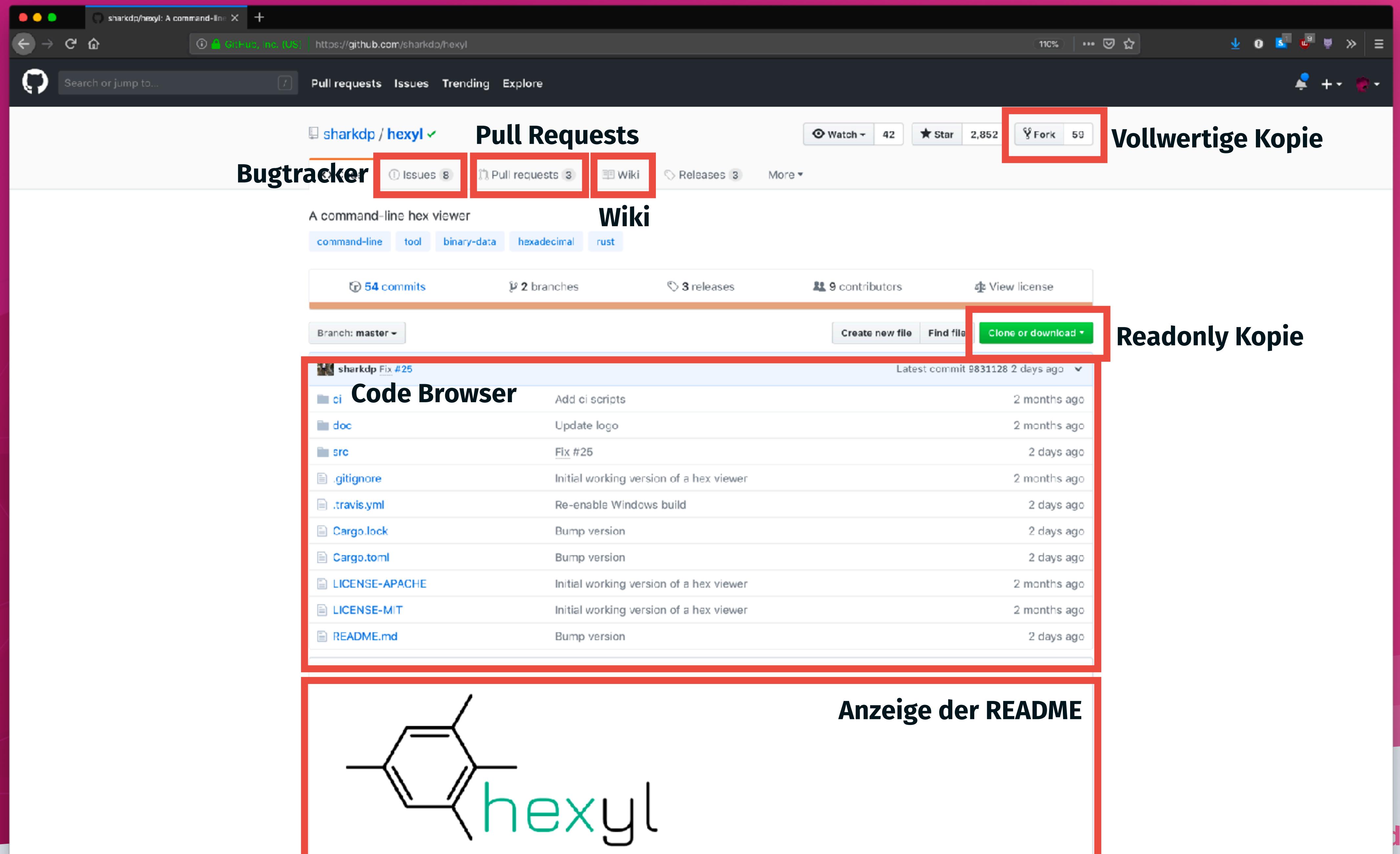
Code Browser

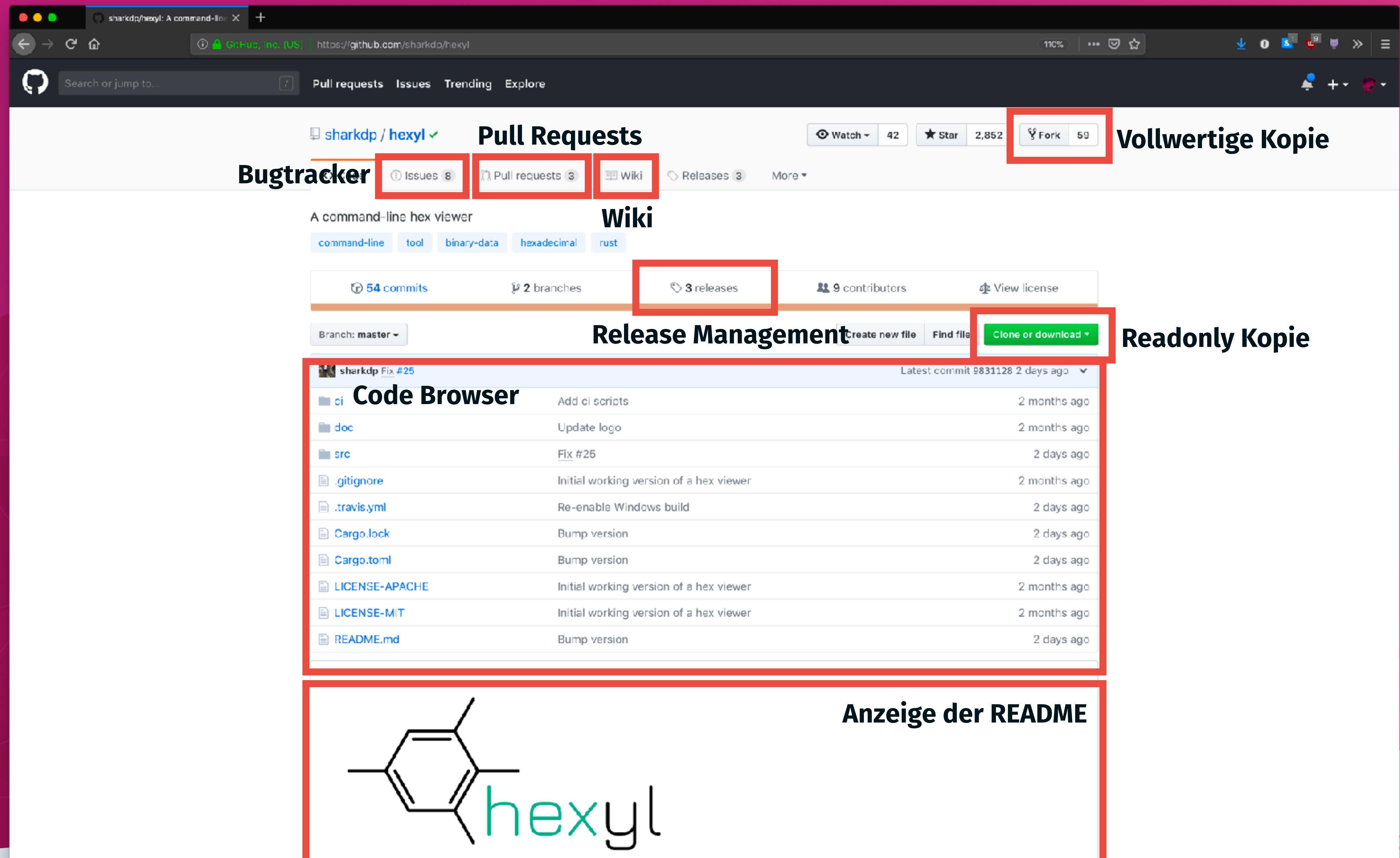
File / Commit	Description	Date
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README.md	Bump version	2 days ago

Readonly Kopie

Anzeige der README

hexyl





Code Browser

- Möglichkeit nach Dateien zu suchen und Dateien direkt per Namen anzuspringen
- Übersicht wann die Letzte Änderung von welcher Person durchgeführt wurde
- Erlaubt Links bis runter auf Zeilen einer Datei
- Pro Tipp™: Einfach mal **T** drücken

README . md

- Jedes (relevante) Projekt sollte eine README besitzen
- README Datei wird (für jeden Ordner) formatiert unter dem Code Browser dargestellt
- Markdown Format mit zusätzlichen Features
 - <https://daringfireball.net/projects/markdown/>
 - <https://help.github.com/categories/writing-on-github/>

Relevante Dateien

- README.md
- LICENSE
- .github/CODE_OF_CONDUCT.md
- .github/CONTRIBUTING.md
- .github ISSUE TEMPLATE.md
- .github/PULL_REQUEST_TEMPLATE.md

<https://help.github.com/articles/about-community-profiles-for-public-repositories/>

Code of Conduct



Repository Kopien

- „Clone or download“ wenn man Schreibrechte auf dem Repository hat
- „Fork“ erlaubt eine private Kopie zu erstellen (im eigenen Account) mit allen Rechten
 - Geeignet für Contributions zu Open Source Repositories
 - **Eins der entscheiden Features die Social Coding ermöglicht haben**

Clone or download ▾

Fork 59

Bug Tracker / Pull Requests

- Issue – Kann ein Bug Report, Feature Request oder allgemeine Frage sein
- Pull Request – Der Vorschlag einer Änderung am Quellcode
 - Keine Erfindung von GitHub, sondern bereits in git als `git request-pull` vorhanden
- Beide dienen als Diskussionsplattform und Dokumentation

! Issues 8

Pull requests 3

The screenshot shows a GitHub pull request page. The title is "Model error as object #32313". A green button on the right says "New issue". Below the title, it says "lulalala wants to merge 31 commits into rails:master from lulalala:model_error_as_object". There are four tabs: "Conversation 32", "Commits 31", "Checks 0", and "Files changed 25". A summary at the bottom right shows "+1,193 -335" with a color bar.

- Titel
- Autor
- Kurze Statistik (wie viele Dateien, wie viel würde hinzugefügt, wie viel entfernt)

• Detaillierte Beschreibung von

• Warum

• Was

• mit welchen Auswirkungen

• geändert werden soll.

<code/later>

lulalala commented on 21 Mar 2018 • edited

Contributor

Summary

Add `ActiveModel::Error` class for encapsulating a single error. It handles message generation and details access.

Utilize this in `Errors` class, changing it from a hash based interface, to an array of `Error` objects. Add more flexible query methods like `where`.

Introduction

ActiveModel#errors interface is currently not very object oriented. For some complex use cases, this design made it a bit tedious to use. I feel these issues can be remedied by encapsulating each individual error as an object.

Last year I implemented AdequateErrors gem to do this, and it solved many of my problems. I later found out that back in 2016, @eprothro suggested the [same idea too](#) on the core mailinglist, and Rafael was positive about this. So I made this PR.

I've made it to respect Rails' deprecation policy. As this contains breaking changes, can this go straight into Rails 6.0?

I will fix other specs/add doc/performance tuning once interface is finalized.

Benefits

More flexible query interface such as `where`

It's easy to query one particular object using the `where` clause.

```
model.errors.where(:name, :foo, bar: 3).first
```

`delete`, `add`, `added?`, `where` all share the same method signature (attribute, type, options). So we are able to delete specific errors now:

```
model.errors.delete(:name, :too_powerful, level: 9000)
```

Testing is more precise and flexible

We can now test if "foo" error exists, regardless of its options hash.

```
model.errors.add(:name, :too_powerful, level: 9000)

model.errors.added?(:name, :too_powerful, level: 9000) # returns true
model.errors.added?(:name, :too_powerful) # will be false in the past, but be true now.
```

Model error as object #52233

lulalala force-pushed the lulalala: model_error_as_object branch on 9 May 2018

lulalala force-pushed the lulalala: model_error_as_object branch to fe13e6c on 28 Jun 2018

lulalala commented on 30 Jun 2018

Contributor

Hi @tenderlove, we have met in Ruby Kaigi, and you mentioned that for emulated message arrays, I should freeze those so attempts to append to them would fail. This is now added. Cheers! (Sorry I forgot who was sitting next to you who said I can also ping him as well)

lulalala force-pushed the lulalala: model_error_as_object branch 2 times, most recently from 72db2d6 to 8344612 on 24 Sep 2018

lulalala commented on 29 Sep 2018 • edited

Contributor

Hi @Larochelle, I see that you made a few changes lately to errors.rb. I am slowly trying to add the change you made to here, but after some digging, I am feeling that maybe we can DRY the logic a bit, as generate_message (here as Error#message and full_message) shares a lot of logic. Would you be interested in working with me on this together? Thanks!

lulalala force-pushed the lulalala: model_error_as_object branch from 8344612 to 5a1ec44 on 29 Sep 2018

rails-bot bot added actionview activemodel activerecord docs i18n labels on 29 Sep 2018

lulalala force-pushed the lulalala: model_error_as_object branch from 5a1ec44 to 4719754 on 29 Sep 2018

18 hidden items Load more...

lulalala added some commits on 26 Mar 2018

- Add convenience method group_by_attribute ... ed99a42
- Use errors# import instead of manipulating errors/details hash 9bbd189
- Fix spec as errors[:foo] << msg is no longer allowed e0d4b0c
- Allow options[:message] to be i18n lookup key ... fc9c128
- Fix spec as generate_message is no longer called ... dff9555
- Backward compatibility for errors.collect/ select etc. ... a452d09
- Remove outdated example ... c2a87f5

- Diskussion
- Nachfragen
- Änderungsvorschläge
- Verweise
- „Likes“

 **O** 1 review requesting changes [Hide all reviewers](#)

  tenderlove requested changes [See review](#)

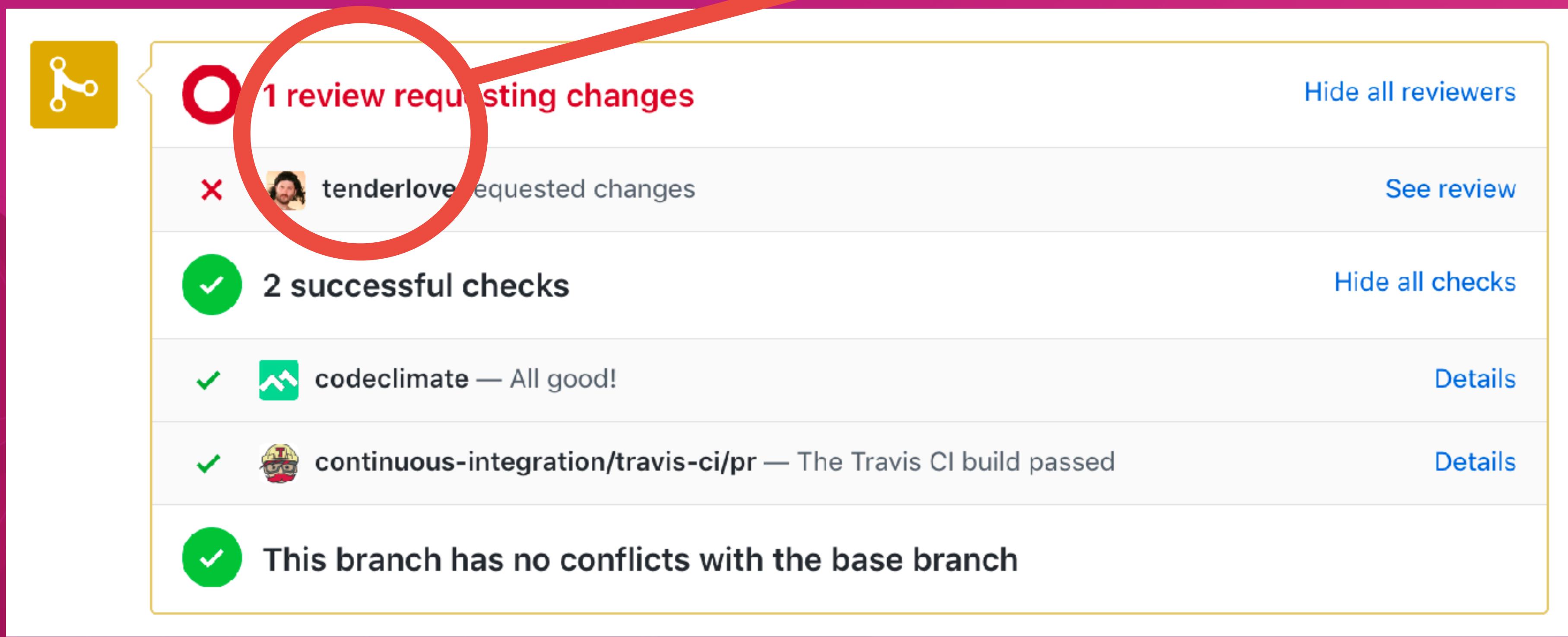
 2 successful checks [Hide all checks](#)

  codeclimate — All good! [Details](#)

  continuous-integration/travis-ci/pr — The Travis CI build passed [Details](#)

 This branch has no conflicts with the base branch

Code Review (Manuell)



The screenshot shows a GitHub code review interface. At the top left is a yellow icon with a gear and a person icon. To its right, a red circle highlights the text "1 review requesting changes". Below this, there is a list of review requests and checks:

- tenderlove** requested changes (with a small profile picture of a man with curly hair)
- 2 successful checks**:
 - codeclimate — All good! (green checkmark icon)
 - continuous-integration/travis-ci/pr — The Travis CI build passed (green checkmark icon)
- This branch has no conflicts with the base branch** (green checkmark icon)

On the right side of the interface, there are buttons for "Hide all reviewers", "See review", "Hide all checks", and "Details" for each check.

Code Review (Manuell)

The screenshot shows a GitHub pull request review interface. At the top, there is a yellow icon with a person icon and the text "1 review requesting changes". Below this, a red circle highlights the "tenderlove" review, which has a red "X" icon and the text "requested changes". To the right of the review, there are "See review" and "Hide all reviewers" buttons. Below the review, there is a green checkmark icon and the text "2 successful checks". A second red circle highlights the "codeclimate" check, which has a green checkmark icon and the text "— All good!". To the right of the check, there is a "Details" button. Below the check, there is another green checkmark icon and the text "continuous-integration/travis-ci/pr — The Travis CI build passed", followed by a "Details" button. At the bottom, there is a green checkmark icon and the text "This branch has no conflicts with the base branch".

Automatisches Review

Code Review

tenderlove reviewed 5 days ago [View changes](#)

tenderlove left a comment Member + ...

Implementing the equality / hash operators seems suspicious to me. I'd like it if they were removed. Other than that, this PR looks fine to me.

`activemodel/test/cases/error_test.rb` Outdated [Show resolved](#)

`activemodel/lib/active_model/error.rb`

```
172 + 
173 +     def hash
174 +         attributes_for_hash.hash
175 +     end
```

tenderlove 5 days ago Member
Is implementing all of these necessary? I can't imagine a use case for comparing semantically comparing error objects.

lulalala 19 hours ago Contributor
Right, this is needed because we call `uniq!` to ensure no duplicate error.

See SHA [7550f0a](#)

[Reply](#)

Code Review

- Mehr Leute sehen mehr Fehler
- Wissensteilung
- Code Ownership aufbrechen
- Kommunikation
- Kollaboration

Code Review

- Sind Teil des Jobs
- Genauso gewissenhaft zu erledigen wie die Entwicklung selbst
- Keine Garantie für keine Fehler ;-)

Reviewee

- Freundlich, respektvoll und sachlich
- Kleine, zusammengehörige Änderungen (< 400 LOC)
- Warum sind die Änderungen nötig?
- Welche Entscheidungen/Kompromisse wurden getroffen? Und warum?
- Auswirkungen auf die Software / den Betrieb / das Team?
- Besonders zu beachtende Punkte

Reviewer

- Freundlich, respektvoll und sachlich
- Lob aussprechen
- Fragen statt Anweisungen geben
- Wurden alle Anforderungen erfüllt?
- Entsprechen die Änderungen den Qualitätsansprüchen?
- Gibt es Verständnisprobleme?
- Dokumentation / Tests vorhanden?

Automatische Reviews

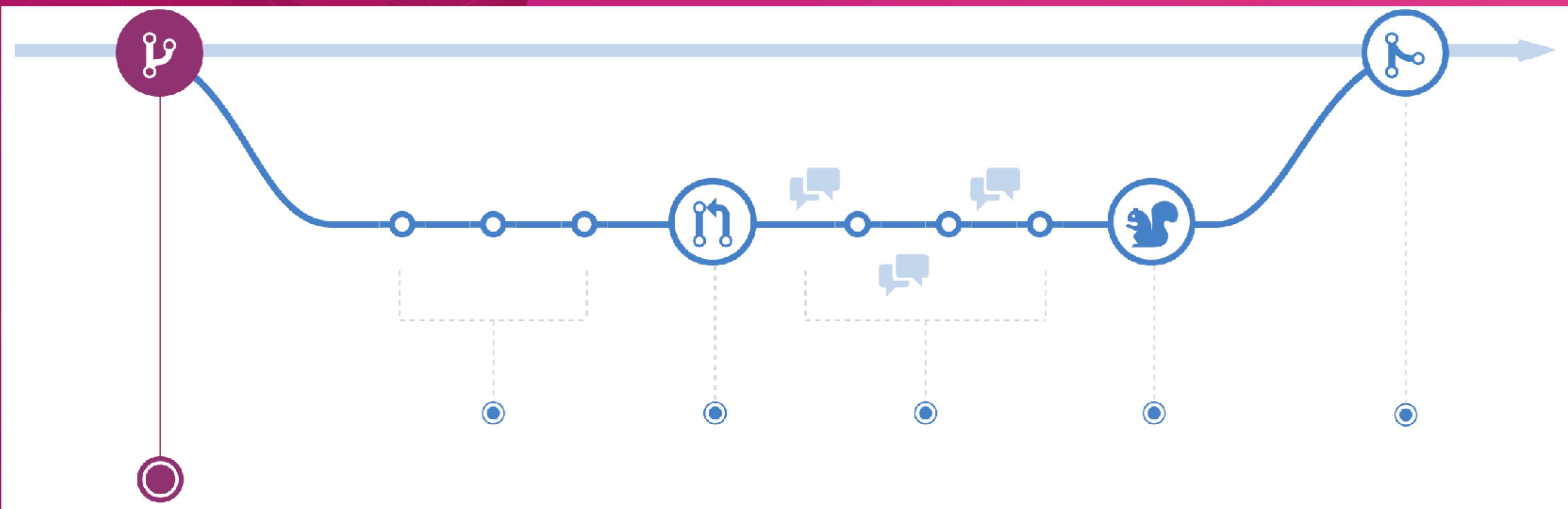
- Statische Codeanalyse
- Einhalten von Styleguides
- Analyse auf Schwachstellen
- Ausführen der Test Suite

To be continued...

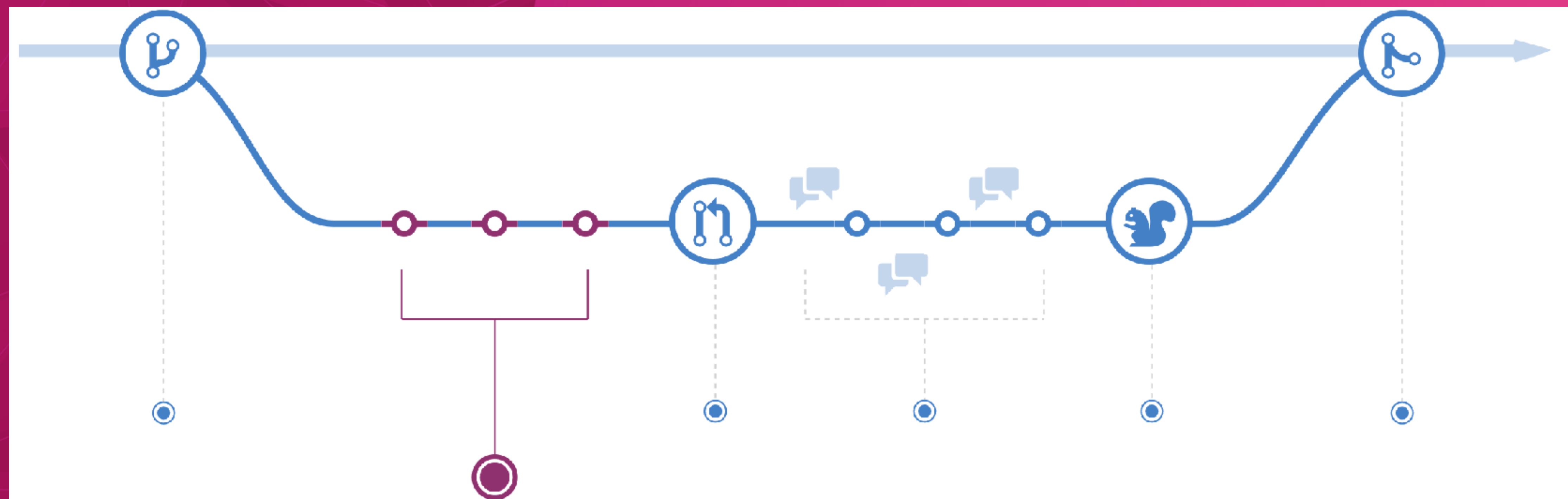
GitHub Flow

<https://guides.github.com/introduction/flow/>

1. Branch erstellen



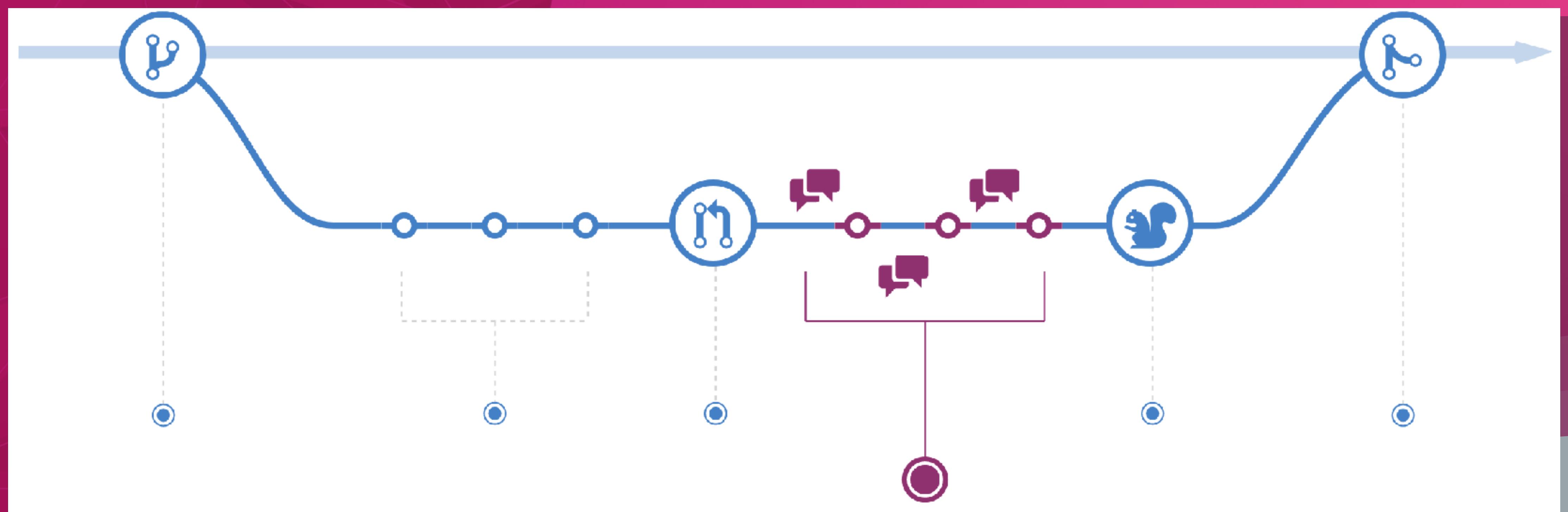
2. Commits hinzufügen



3. Pull Request erstellen

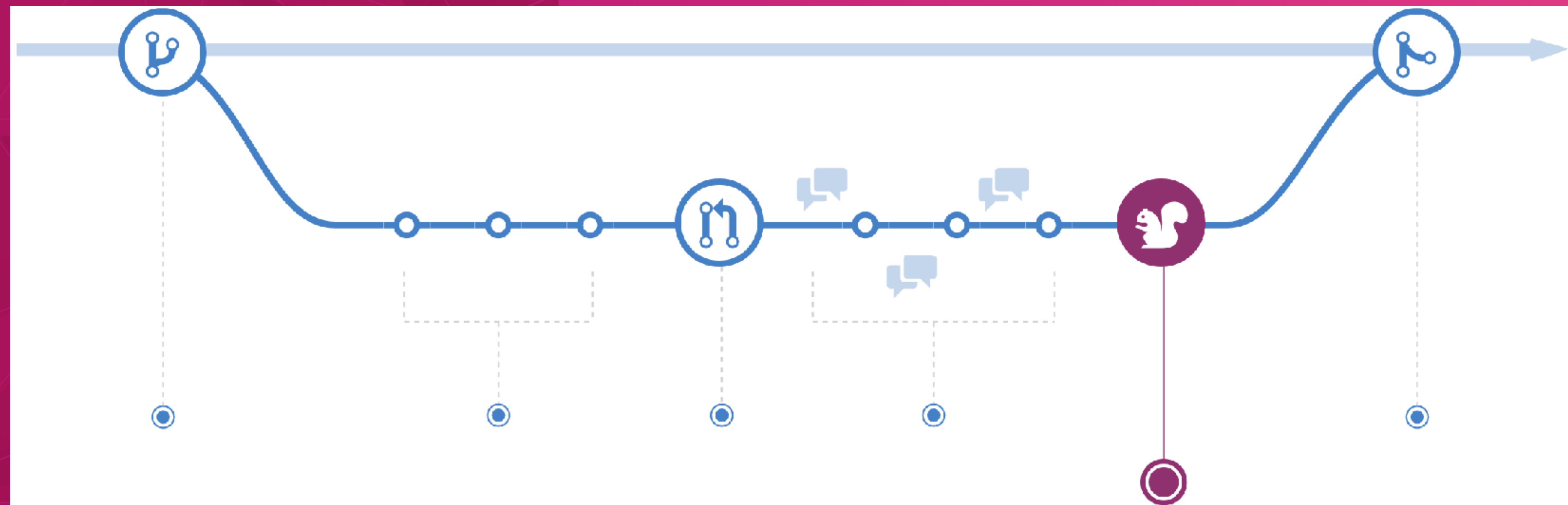


4. Review / Diskussion



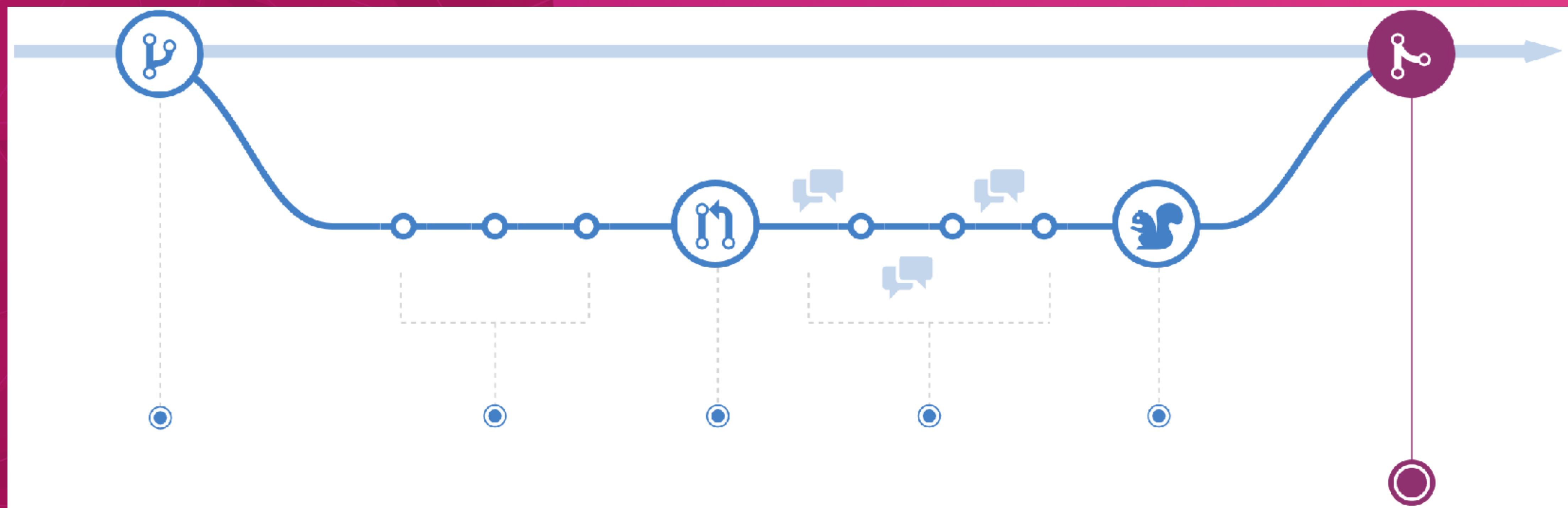
/later>

5. Ship it!



/later>

5. Merge in master



/later>

Hands-On

- Cheat Sheet Repo nach GitHub
- LICENSE hinzufügen (<https://choosealicense.com/>)
- CoC hinzufügen (<http://contributor-covenant.org/>)
- PR Template hinzufügen
- Bei Kommilitonen PR mit Cheat Sheet Eintrag zu GitHub erstellen

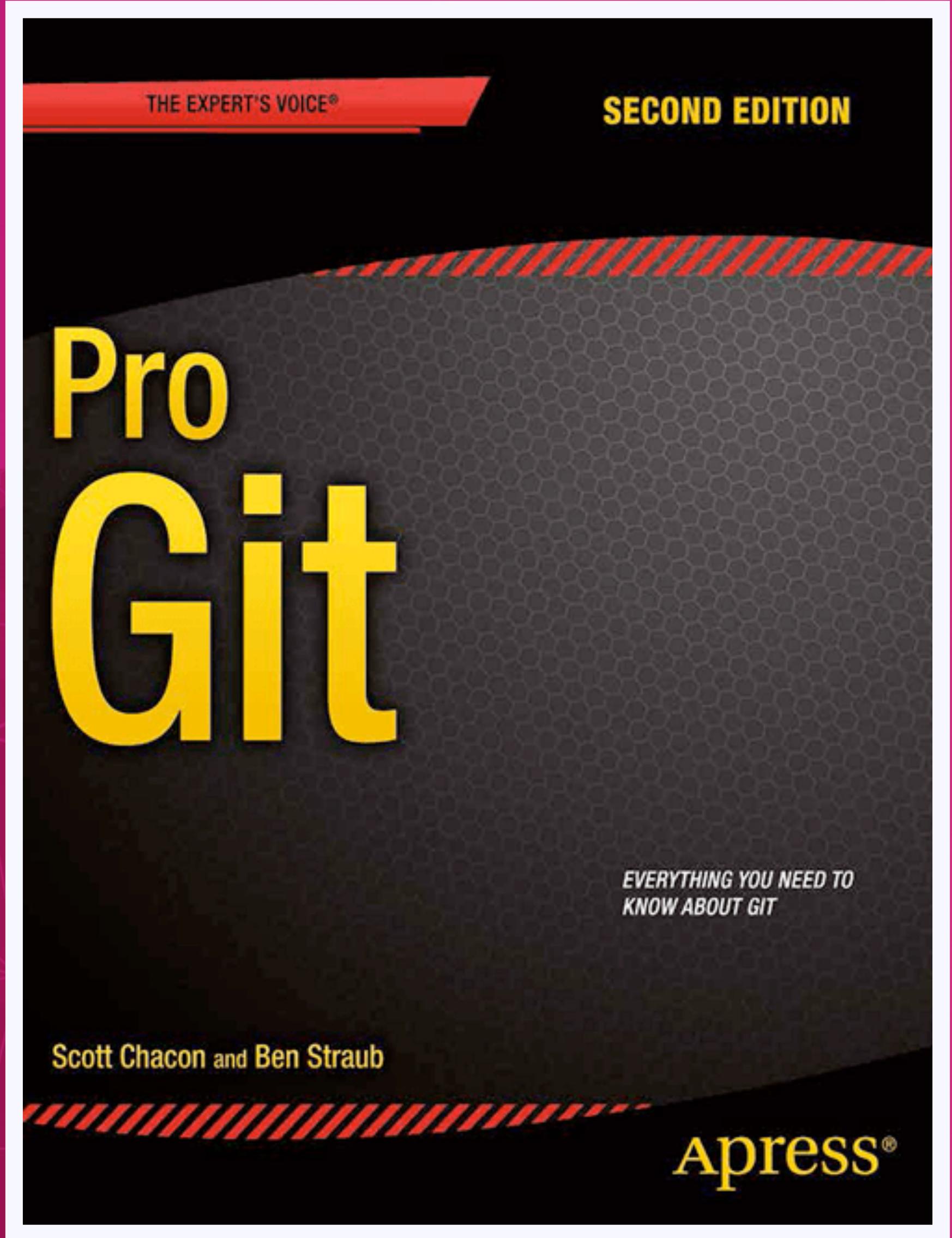
Bonus: GitHub Pages

- <https://pages.github.com/>
- Einfachste Möglichkeit README.md als schicke™ Webseite zu veröffentlichen
- <https://<github-username>.github.io/<repo>/>



To the Browser...

Literatur



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

The Pragmatic Programmer



from journeyman
to master

Andrew Hunt
David Thomas

Foreword by Ward Cunningham

<https://pragprog.com/book/tpp/the-pragmatic-programmer>



Danke.