



ZooRoyal IT

Git

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10. April 2018



git

Git unter der Haube

Datenhaltung in Git

History

Branch

Merge

Rebase

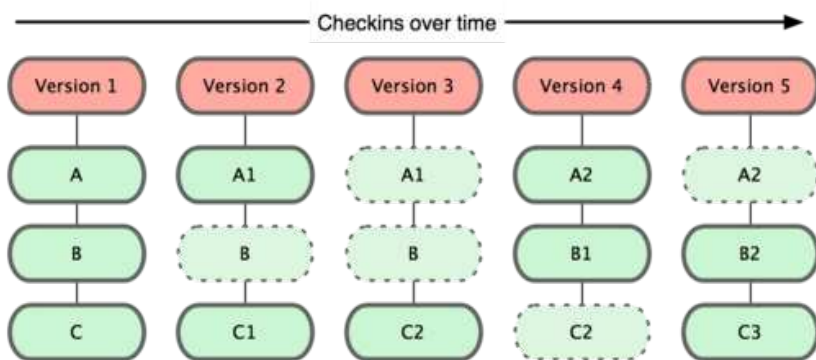
Arbeiten mit Git

Repositories organisieren

Git Cli

Datenhaltung in Git

Versionen und Dateien



- ▶ Git speichert in jedem Commit die Dateien als ganzes
- ▶ Unveränderte Dateien werden allerdings nur referenziert

Datenhaltung in Git

Git Objekte



Git kennt vier Typen von Objekten

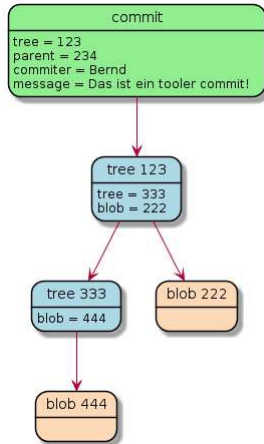
blobs Dateien

trees Verzeichnisse

commit Momentaufnahmen des Workspace

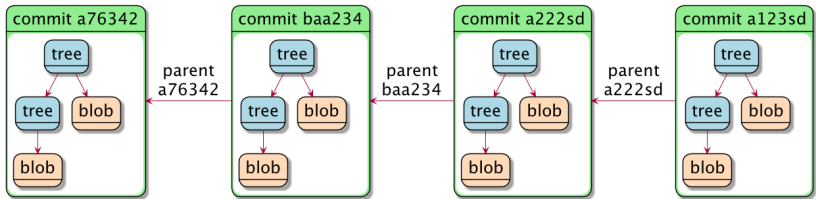
tags signierte Namen von commits

Alle Objekte werden mit einem SHA-1 Hash ihres Inhalts identifiziert



History

Verkettung von commits



- ▶ Alle Dateien, Ordner, Commits werden in Git-Objekten verwaltet
- ▶ Die Git-Objekte bilden eine Baumstruktur

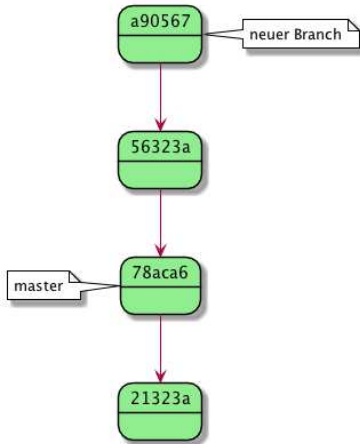


- Branches sind Pointer auf commits
- Verschiedene Commit-ids für gleichen Commit

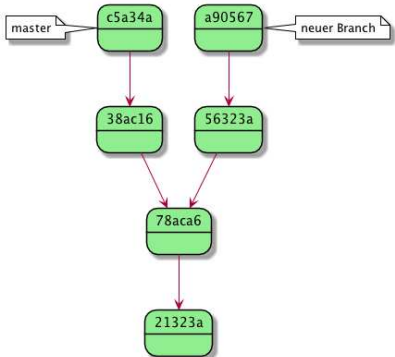
```
git checkout 78aca6
```

```
git checkout master
```

(**Vorsicht!** Detached Head!)



Neue commits in einem Branch
verschieben den Pointer

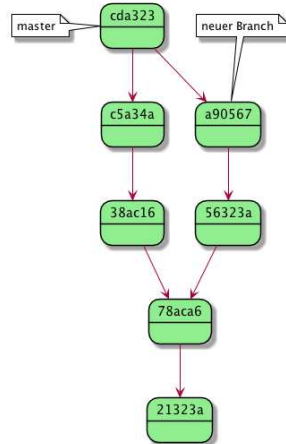


Merge

Zusammenführen von zwei Branches



- ▶ Neuer Branch → master
- ▶ Quellbranch bleibt bestehen
- ▶ Pointer im Quellbranch wird nicht bewegt
- ▶ Neuer commit (cda323) hat zwei Parents
- ▶ `git branch -d neuer Branch` entfernt nur den Pointer, nicht die commits

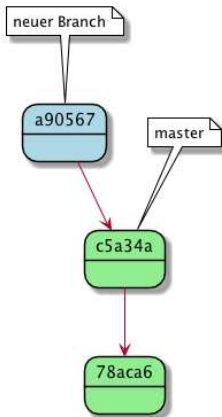


Merge

Mergen mit Fast Forward



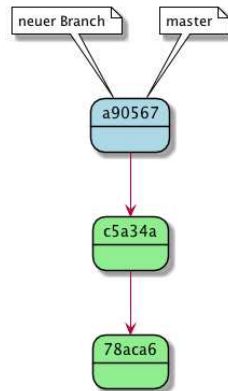
Vorher



Entspricht Rebase +
Reset master

- ▶ Pointer wird weiter geschoben
- ▶ Nur ein Parent
- ▶ Lineare History
- ▶ Git Default

Nachher

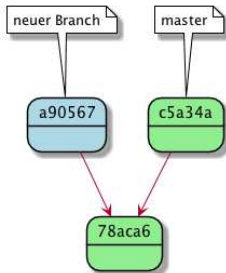


Rebase

Was passiert bei einem Rebase

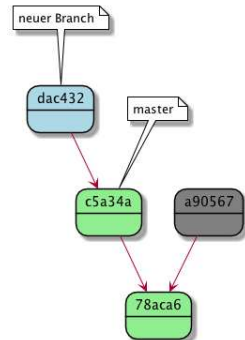


Vorher



- ▶ Commit wird kopiert und Parent gesetzt
- ▶ master Pointer wird **nicht** verschoben
- ▶ Lineare History

Nachher





Rebase gibt einem weitere Möglichkeiten Commits umzuorganisieren.

Drop Einzelne Commits entfernen

Squash, Fixup Commits zusammenführen

Reword Einzelne Commit Messages ändern

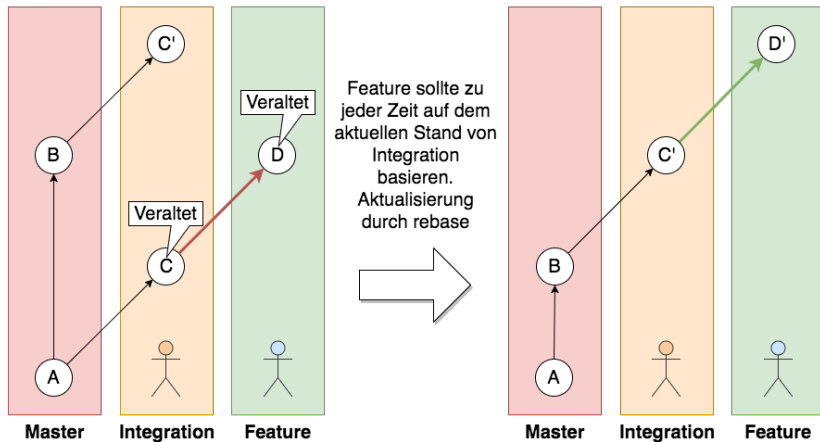
Edit Einzelne Commits amendieren

Operationen können beliebig kombiniert werden



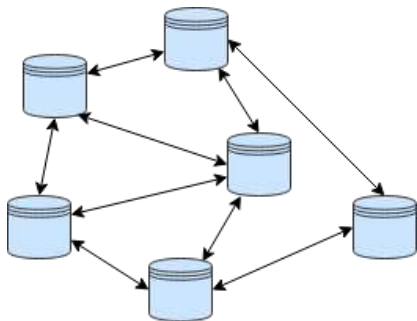
Mit großer Macht kommt große
Verwirrung

- ▶ Vorsicht vor Branches, auf denen andere Entwickler Arbeiten
- ▶ Überkomplexe Branches machen Rebases extrem schwer
- ▶ Mitdenken erforderlich



Repositories organisieren

Repositories beliebig verknüpfen



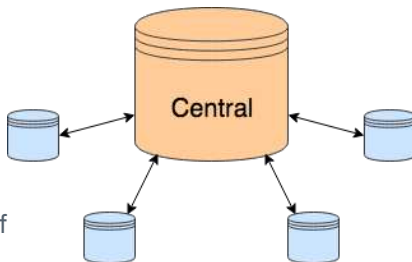
- ▶ Repositories existieren prinzipiell unabhängig
- ▶ Können mit Prozessregel organisiert werden
- ▶ Daten können mit Push, Pull oder Patch ausgetauscht werden



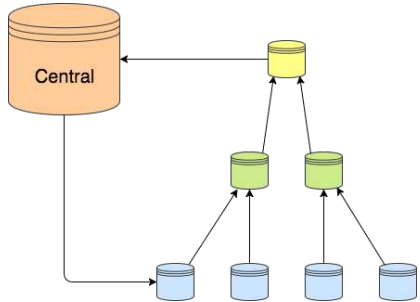
Git bietet einige Protokolle zur Datenübertragung

- ▶ git
- ▶ file
- ▶ ssh
- ▶ http
- ▶ mailto

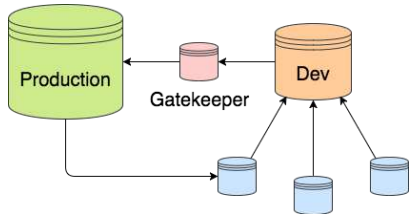
- ▶ Zentrales Repository als gemeinsamen Stand
- ▶ Entwickler pushen und pullen beliebig aus Central
- ▶ Keine Kontrollinstanz
- ▶ Einfach umzusetzen



- ▶ Verteilte Verantwortung (Network of Trust)
- ▶ Verwalter betrachten verschiedene Scopes
- ▶ Hochflexibel



- ▶ Continuous integration
- ▶ Automatische Tests
- ▶ Abnahme
- ▶ Einheitlicher Entwicklungsstand
- ▶ Releases



- Use Git the Git way
- Umfangreicher Werkzeugkofer
- Schnell
- Zielsicher
- Stabil

```
🍏 ~/talks/latex P master 100%
git reflog | cat
d5f470e HEAD@{0}: commit: Git strukturen halb durch
3518d7b HEAD@{1}: reset: moving to HEAD
3518d7b HEAD@{2}: commit: Mockery Farbcodes in Listings geändert
ec41e65 HEAD@{3}: commit: Gitvortrag angefangen
4659920 HEAD@{4}: commit (amend): Komprimierter Vortrag, Bereinigtes leeres Projekt
c84a20c HEAD@{5}: commit: Komprimierter Vortrag, Bereinigtes leeres Projekt
1716399 HEAD@{6}: commit: Initial commit
9ac8809 HEAD@{7}: reset: moving to HEAD
9ac8809 HEAD@{8}: reset: moving to HEAD
9ac8809 HEAD@{9}: commit: Mockery Vortrag
d846250 HEAD@{10}: commit (amend): UnitTest vorversion; FeatherTemplateZR release
724716a HEAD@{11}: commit (amend): UnitTest vorversion; FeatherTemplateZR release
7fdc995 HEAD@{12}: commit (amend): UnitTest vorversion; FeatherTemplateZR release
1a9514e HEAD@{13}: commit: UnitTest vorversion; FeatherTemplateZR release
d854940 HEAD@{14}: commit (initial): Initial Commit

🍏 ~/talks/latex P master 100%
git status
On branch 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:   Git/Git.pdf
    modified:   Git/Git.tex

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

    Git/Images/git_logo.png

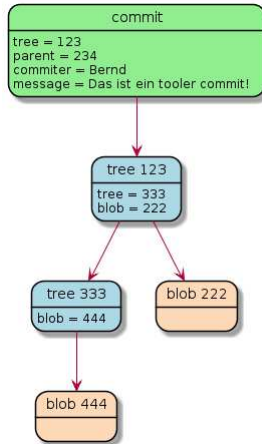
no changes added to commit (use "git add" and/or "git commit -a")

🍏 ~/talks/latex P master 100%
```

commit-ish

A commit object or an object that can be recursively dereferenced to a commit object.

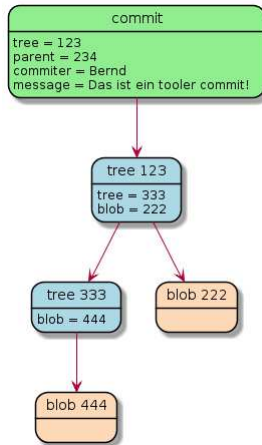
- ▶ a commit object
- ▶ a tag object that points to a commit object



tree-ish

A tree object or an object that can be recursively dereferenced to a tree object.

- ▶ a commit-ish
(tree of top directory)
- ▶ a tree object
- ▶ a tag object that points to a tree object





commit-ish	Example
<sha1>	dae86e1950b1277e545cee180551750029cfe735
<describeOutput>	v1.7.4.2-679-g3bee7fb
<refname>	master, heads/master, refs/heads/master
<refname>@{<date>}	master@{yesterday}, HEAD@{5 minutes}
<refname>@{<n>}	master@{1}
@{<n>}	@{1}
@{-<n>}	@{-1}
<refname>@{upstream}	master@{upstream}, @{u}
<rev>^	HEAD^, v1.5.1^0
<rev>~<n>	master~3
<rev>^{<type>}	v0.99.8^{commit}
<rev>^{}	v0.99.8^{}
<rev>^{/<text>}	HEAD^{/fix nasty bug}
:/<text>	:/fix nasty bug

► [Git Dokumentation](#)



git reflog [▶ Git Dokumentation](#)

- ▶ Historie der letzten Git-Operationen
- ▶ Commit-ish benutzen um zum Stand zurück zu kehren

```
git reset --hard HEAD@{5}
```

```
d5f470e (HEAD -> master) HEAD@{0}: commit: G
3518d7b HEAD@{1}: reset: moving to HEAD
3518d7b HEAD@{2}: commit: Mockery Farbcodes
ec41e65 HEAD@{3}: commit: Gitvortrag angefang
4659920 HEAD@{4}: commit (amend): Komprimier
c84a20c HEAD@{5}: commit: Komprimierter Vort
1716399 HEAD@{6}: commit: Initial commit
9ac8809 HEAD@{7}: reset: moving to HEAD
9ac8809 HEAD@{8}: reset: moving to HEAD
9ac8809 HEAD@{9}: commit: Mockery Vortrag
d846250 HEAD@{10}: commit (amend): UnitTest
724716a HEAD@{11}: commit (amend): UnitTest
7fdc995 HEAD@{12}: commit (amend): UnitTest
1a0514e HEAD@{13}: commit: UnitTest vorversio
d854940 HEAD@{14}: commit (initial): Initial
(END)
```

git status

► Git Dokumentation

- Working mode
(Rebasing, Merging ...)
- Branch, Remotes
- Staged, Unstaged

```
git status
```

```
git status -sb #aka STFU-Mode
```

```
~/talks/latex master 1 ?
└─ git status
On branch 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:   Git/Git.pdf
        modified:   Git/Git.tex

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

        Git/Images/git_client.png
        Git/Images/git_logo.png
        Git/Images/git_reflog.png

no changes added to commit (use "git add" and/or "git commit")

~/talks/latex master 1 ?
└─ git status -sb
## master
M Git/Git.pdf
M Git/Git.tex
?? Git/Images/git_client.png
?? Git/Images/git_logo.png
?? Git/Images/git_reflog.png
```


git add ► Git Dokumentation

- Fügt unbekannte Dateien zum index hinzu
- Staged Änderungen an bekannten Dateien

```
git add NewFile.php
```

```
git add --all
```

```
git add -i #Interactive
```

```
~/git_repositories/zooroyalweb P remotes/origin/HEAD
git status
HEAD detached at origin/master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    new file:   .idea/inspectionProfiles/profiles_settings.xml

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

    deleted:    .idea/inspectionProfiles/profiles_settings.xml
    modified:   build/config/phpcs/ZooroyalDefault/ruleset.xml

~/git_repositories/zooroyalweb P remotes/origin/HEAD
git add .idea/inspectionProfiles/profiles_settings.xml

~/git_repositories/zooroyalweb P remotes/origin/HEAD
git status
HEAD detached at 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:   build/config/phpcs/ZooroyalDefault/ruleset.xml

no changes added to commit (use "git add" and/or "git commit -a")

~/git_repositories/zooroyalweb P remotes/origin/HEAD
git add -i
staged      unstaged path
1:          unchanged  +0/-1 build/config/phpcs/ZooroyalDefault/ruleset.xml

*** Commands ***
1: status      2: update     3: revert     4: add untracked
5: patch      6: diff      7: quit      8: help
What now? █
```

Remove/Move

Dateien entfernen und verschieben



git rm / git mv

► [Git Dokumentation](#)

► Git-Historie pflegen

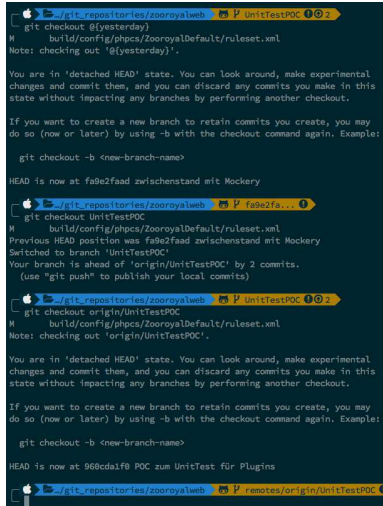
```
git rm NewFile.php  
git mv NFile.php NewFile.php
```

```
➤ ~/git_repositories/zooroyalweb  P UnitTestPOC 1 0 2  
touch test.txt  
➤ ~/git_repositories/zooroyalweb  P UnitTestPOC 1 2 2  
git add test.txt  
➤ ~/git_repositories/zooroyalweb  P UnitTestPOC 3 1 2  
git mv test.txt bla.txt  
➤ ~/git_repositories/zooroyalweb  P UnitTestPOC 4 1 2  
git rm bla.txt -f  
rm 'bla.txt'  
➤ ~/git_repositories/zooroyalweb  P UnitTestPOC 1 0 2
```

git checkout [▶ Git Dokumentation](#)

Stellt Git-Objekte im Workspace bereit

```
# checkout branch
git checkout master
# create and checkout branch
git checkout -b new_Branch
# checkout remote branch at date
git checkout origin/master@{
    yesterday}
# checkout single file
git checkout <commit-ish> -- <
    file_path>
# checkout last used branch
git checkout - # alt: @{-1}
```



```
~/git_repositories/zooroyalweb P UnitTestPOC 102
git checkout @{yesterday}
M    build/config/phpcs/ZooroyalDefault/ruleset.xml
Note: checking out '@{yesterday}'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by performing another checkout.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -b with the checkout command again. Example:

    git checkout -b <new-branch-name>

HEAD is now at fa9e2faad zwischenstand mit Mockery

~/git_repositories/zooroyalweb P fa9e2fa... 1
git checkout UnitTestPOC
M    build/config/phpcs/ZooroyalDefault/ruleset.xml
Previous HEAD position was fa9e2faad zwischenstand mit Mockery
Switched to branch 'UnitTestPOC'
Your branch is ahead of 'origin/UnitTestPOC' by 2 commits.
    (use "git push" to publish your local commits)

~/git_repositories/zooroyalweb P UnitTestPOC 102
git checkout origin/UnitTestPOC
M    build/config/phpcs/ZooroyalDefault/ruleset.xml
Note: checking out 'origin/UnitTestPOC'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by performing another checkout.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -b with the checkout command again. Example:

    git checkout -b <new-branch-name>

HEAD is now at 960cd1f9 POC zum UnitTest für Plugins

~/git_repositories/zooroyalweb P remotes/origin/UnitTestPOC 1
```



git log

► Git Dokumentation

- Zeigt die Historie
- Verschiedene Ansichten
- Durchsuchen

```
git log
# detailed view
git log -p
# short view with graph
git log --graph --online
# grep message for pattern
git log --grep=Bugfix
# show commits since date
git log --since=yesterday
```

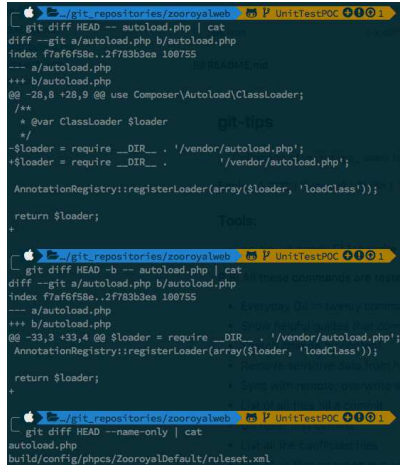
```
1b16b4c75 (HEAD, tag: 1.6.6, origin/master, origin/HEAD) Merge pull request #1748 from
* 2abf15bb4 (origin/DEV-2048) remove button from french rip page
6042036d1 (tag: 1.6.5) Merge pull request #1746 from ZooRoyal/DEV-2045
* 8b9aa00e2 (origin/DEV-2045) DEV-2045 Remove FR from findologic check
* eca1006a8 Merge pull request #1747 from ZooRoyal/DEV-2046
* 752b8e7cc (origin/DEV-2046) DEV-2046 sitemap export zooroyal.fr removed
8253821a2 (tag: 1.6.4) Merge pull request #1739 from ZooRoyal/DEV-2016-2
* d8114fec9 DEV-2016-2 Add FR host; add 410 gone header
* 254aad9f4 DEV-2016-2 Add FR host; add 410 gone header
* 527d86534 (origin/DEV-2016-2) DEV-2016-2 Add rip page text; add shopware routing
* 8c63cecbf DEV-2016-2 Add rip page text; add shopware routing
* 829714a0e DEV-2016 Waitpage und Shellscript zum generieren von data-uri
* ea8a4def7 DEV-2016 Analog zu Zrhreflang die aktiven Shops in einer Klassenvariable def
* 6c8e58577 DEV-2016 Französische Texte entfernt
* ea434d5f2 DEV-2016 Modal Anzeige für FR Kunden auf DE und AT verhindert
* b275dd9e6 DEV-2016 Meta-Link hreflang für FR unterbunden
55b5734b6 Merge pull request #1735 from ZooRoyal/DEV-2027
* 5df09475e (origin/DEV-2027) DEV-2027 find_php_to_check respects excludes in diff build
4da93dcd9 (tag: 1.6.3) Merge pull request #1732 from ZooRoyal/DEV-2017
* 183d602ea (origin/DEV-2017) DEV-2017 type mismatch fixed, probably. codestyle
* 9736b2961 DEV-2017 only apply voucher total value check to percental vouchers, some cod
* 82967082a DEV-2017 basket total patch ported from WFS
* 23a213d6f DEV-2017 order export to pixli: BE lineitem fix from BL2016/DEV-1591
* 6a2bee841 DEV-2017 voucher plugin tweaks for saque-voucher from weinfreunde (WFS-500)
```

git diff

► Git Dokumentation

- Zeigt Unterschiede zwischen Commit-ishs
- Durchsuchen

```
git diff
# only names of unmerged
git diff --name-only --diff-filter
=U
# changed chars only
git diff --word-diff
# ignore whitespace
git diff HEAD~4..HEAD~2 -b
```



```
~/git_repositories/zooroyalweb  P UnitTestPOC 1
[ git diff HEAD -- autoload.php | cat
diff --git a/autoload.php b/autoload.php
index f7af6f58e..2f783b3ea 100755
--- a/autoload.php
+++ b/autoload.php
@@ -28,8 +28,9 @@ use Composer\Autoload\ClassLoader;
/**
 * @var ClassLoader $loader
 */
-$loader = require __DIR__ . '/vendor/autoload.php';
+$loader = require __DIR__ . '/vendor/autoload.php';

AnnotationRegistry::registerLoader(array($loader, 'loadClass'));

return $loader;

+
git diff HEAD -b -- autoload.php | cat
diff --git a/autoload.php b/autoload.php
index f7af6f58e..2f783b3ea 100755
+++ b/autoload.php
@@ -33,3 +33,4 @@ $loader = require __DIR__ . '/vendor/autoload.php';
AnnotationRegistry::registerLoader(array($loader, 'loadClass'));

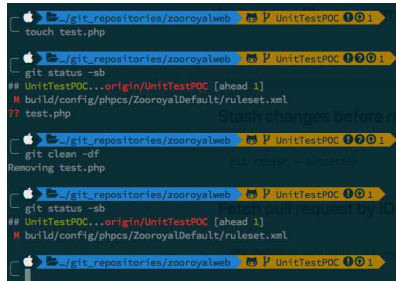
return $loader;
+
git diff HEAD --name-only | cat
autoload.php
build/config/phpcs/ZooroyalDefault/ruleset.xml
```

git clean

► [Git Dokumentation](#)

- Entfernt nicht indizierte Dateien
- .gitignore wird beachtet

```
git clean
# deletes directories too
git clean -df
```



```
~/git_repositories/zooroyalweb P UnitTestPOC 1 0 1
touch test.php

~/git_repositories/zooroyalweb P UnitTestPOC 1 0 1
git status -sb
## UnitTestPOC...origin/UnitTestPOC [ahead 1]
M build/config/phpcs/ZooroyalDefault/ruleset.xml
?? test.php

~/git_repositories/zooroyalweb P UnitTestPOC 1 0 1
git clean -df
Removing test.php

~/git_repositories/zooroyalweb P UnitTestPOC 1 0 1
git status -sb
## UnitTestPOC...origin/UnitTestPOC [ahead 1]
M build/config/phpcs/ZooroyalDefault/ruleset.xml

~/git_repositories/zooroyalweb P UnitTestPOC 1 0 1
```



git fetch

► [Git Dokumentation](#)

Bezieht Refs von
Remote-Reposities

```
git fetch
# fetches a specific ref for
  branch
git fetch origin master:refs/
  remotes/origin/mymaster
```

```
git fetch
remote: Counting objects: 673, done.
remote: Compressing objects: 100% (211/211), done.
remote: Total 673 (delta 426), reused 573 (delta 383), pack-reused 33
Receiving objects: 100% (673/673), 235.07 KiB | 1.44 MiB/s, done.
Resolving deltas: 100% (429/429), completed with 242 local objects.
From github.com:ZooRoyal/zooroyalweb
 * [new branch]      ABO-2         -> origin/ABO-2
 * [new branch]      ABO-34        -> origin/ABO-34
 60778c85a..6bf6af530 DEV-1342    -> origin/DEV-1342
 df295eaac..eb4fbb309 DEV-1492    -> origin/DEV-1492
 * [new branch]      DEV-1492-new  -> origin/DEV-1492-new
 7b0b7385d..413ae9057 DEV-1575    -> origin/DEV-1575
 3f024fbf6..44a12c9d6 DEV-1575-new -> origin/DEV-1575-new
 @4b81de73..67814785f DEV-1589    -> origin/DEV-1589
 7beee9d2e..91dcf412a DEV-1697    -> origin/DEV-1697
 * [new branch]      DEV-1966      -> origin/DEV-1966
 257053203..be76f3c48 DEV-1978    -> origin/DEV-1978
 7c25c8a1b...2ca6279be DEV-2008    -> origin/DEV-2008 (forced update)
 ab2f61c6c..beceb800f DEV-2037    -> origin/DEV-2037
 * [new branch]      DEV-2045      -> origin/DEV-2045
 * [new branch]      DEV-2046      -> origin/DEV-2046
 * [new branch]      DEV-2048      -> origin/DEV-2048
 3de648a6d..f7539c595 RL2017      -> origin/RL2017
 0857eade2..ca4f99302 SSR-14       -> origin/SSR-14
 * [new branch]      ZOO-8         -> origin/ZOO-8
 8253821a2..1b16b4c75 master       -> origin/master
 * [new branch]      master-vagrantfix -> origin/master-vagrantfix
 * [new tag]         1.6.4         -> 1.6.4
 * [new tag]         1.6.6         -> 1.6.6
 * [new tag]         1.6.5         -> 1.6.5
```



git merge

► Git Dokumentation

- Führt zwei Branches zusammen
- Merge oder Fast-Forward
- Interaktiv

```
# Pause before commit
git merge --no-commit Quellbranch
# Abort ongoing merge
git merge --abort
# Continue paused merge
git merge --continue
# Force non Fast-Forward
git merge -no-ff Quellbranch
```

```
~/git_repositories/zooroyalweb UnitTestPOC [01]
git merge --no-commit origin/master
Automatic merge went well; stopped before committing as requested

~/git_repositories/zooroyalweb UnitTestPOC [01]
git status --sb
UnitTestPOC...origin/UnitTestPOC [ahead 1]
assets/src/js/modal-118n.js
build/bin/copy_paste_detect_php.sh
build/bin/find_php_to_check.sh
engine/Shopware/Plugins/Local/Frontend/ZRHealthCheck/Components/HealthCheck/Check/
engine/Shopware/Plugins/Local/Frontend/ZRInflang/Bootstrap.php
engine/Shopware/Plugins/Local/Frontend/ZRJsonREST/Controllers/Frontend/ZRJsonREST.c
engine/Shopware/Plugins/Local/Frontend/ZRItemmap/Bootstrap.php
engine/Shopware/Plugins/Local/Frontend/ZRVoucherPromotion/Bootstrap.php
engine/Shopware/Plugins/Local/Frontend/ZRVoucherPromotion/Models/ZRBasket.php
engine/Shopware/Plugins/Local/Frontend/ZRVoucherPromotion/Views/backend/zr_voucher_
ndow.js
landing/rip_page/rip-page-fr.html
pixishopconnection/system/application/views/export_pix_order.php
resources/maintenance/wait-page-fr.html
resources/scripts/CSV_checkout_all.sh
resources/scripts/data_url_generator.sh
shopware.php

~/git_repositories/zooroyalweb UnitTestPOC [01]
git commit
[UnitTestPOC 2a680f3fe] Merge remote-tracking branch 'origin/master' into UnitTestPOC

~/git_repositories/zooroyalweb UnitTestPOC [01]
```




git pull

► Git Dokumentation

- Integriert Daten aus anderem Branch
- Fetch und merge

```
# fetch + merge FETCH_HEAD
git pull
# pull ref from remote
git pull origin master
# fetch + rebase instead
git pull --rebase master
# Config always rebase
git config --global pull.rebase
    true
```

```
~/git_repositories/zooroyalweb P master 1.6.5 2
[git status -sb]
## master...origin/master [behind 2]
?? changes.txt

~/git_repositories/zooroyalweb P master 1.6.5 2
[git add .]

~/git_repositories/zooroyalweb P master 1.6.5 2
[git commit -m "CHAAAAAANGES"]
[master f87be494b] CHAAAAAANGES
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 changes.txt

~/git_repositories/zooroyalweb P master 1 2
[git pull --rebase origin master]
From github.com:ZooRoyal/zooroyalweb
branch      master      -> FETCH_HEAD
First, rewinding head to replay your work on top of it...
Applying: CHAAAAAANGES

~/git_repositories/zooroyalweb P master 1
[git log -3 --oneline --graph --source --color | cat]
* 7ee1eee0 HEAD CHAAAAAANGES
* 1b16b4c75 HEAD Merge pull request #1748 from ZooRoyal/DEV-2048
* 2abf15bb4 HEAD remove button from french rip page

~/git_repositories/zooroyalweb P master 1
```

Push

Daten in anderen Branch übertragen



git push

► Git Dokumentation

Remote-Repository-Daten
schreiben oder löschen

```
# force push to origin/branch
git push -f origin branch
# delete remote branch
git push origin :branch
# protected force push
git push --force-with-lease
```

```
~/git_repositories/zooroyalweb P UnitTestPOC 1
git log --color -3 --oneline --graph origin/UnitTestPOC | cat
* 960cd1f0 POC zum UnitTest für Plugins
* 95c462aed Merge pull request #1731 from ZooRoyal/DEV-1971-Anpassun
//
* 9f05e4140 Anpassungen an idea-settings und phpcs ruleset
//
~/git_repositories/zooroyalweb P UnitTestPOC 1
git log --color -3 --oneline --graph UnitTestPOC | cat
* fa9e2faad zwischenstand mit Mockery
* 960cd1f0 POC zum UnitTest für Plugins
* 95c462aed Merge pull request #1731 from ZooRoyal/DEV-1971-Anpassun
//
~/git_repositories/zooroyalweb P UnitTestPOC 1
git status -sb
# UnitTestPOC...origin/UnitTestPOC [ahead 1]
~/git_repositories/zooroyalweb P UnitTestPOC 1
git push
Counting objects: 14, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (11/11), done.
Writing objects: 100% (14/14), 2.41 KiB | 823.00 KiB/s, done.
Total 14 (delta 6), reused 0 (delta 0)
remote: Resolving deltas: 100% (6/6), completed with 6 local objects.
To github.com:ZooRoyal/zooroyalweb.git
 960cd1f0..fa9e2faad UnitTestPOC -> UnitTestPOC
~/git_repositories/zooroyalweb P UnitTestPOC 1
```

Revert

Änderungen mit sauberer History rückgängig



git revert

[Git Dokumentation](#)

Erzeugt einen neuen Commit der Änderungen eines anderen Commits rückgängig macht

```
# undo <commit-ish>
git revert <commit-ish>
# undo merge
git revert -m 1 <commit-ish>
```

```
~/git_repositories/zooroyalweb P UnitTestPOC
git status -sb
## UnitTestPOC...origin/UnitTestPOC

~/git_repositories/zooroyalweb P UnitTestPOC
touch test.txt

~/git_repositories/zooroyalweb P UnitTestPOC
git add test.txt

~/git_repositories/zooroyalweb P UnitTestPOC
git commit -m "broken commit"
[UnitTestPOC e0a2e4039] broken commit
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 test.txt

~/git_repositories/zooroyalweb P UnitTestPOC
git log -1 | cat
commit e0a2e4039d9298840ab35738a2e529d21c5bea98
Author: Sebastian Knott <s.knott@zooroyal.de>
Date: Fri Jan 26 13:33:36 2018 +0100

    broken commit

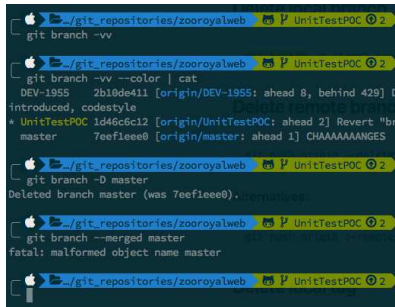
~/git_repositories/zooroyalweb P UnitTestPOC
git revert e0a2e4039d9298840ab35738a2e529d21c5bea98
[UnitTestPOC 1d46c6c12] Revert "broken commit"
1 file changed, 0 insertions(+), 0 deletions(-)
delete mode 100644 test.txt

~/git_repositories/zooroyalweb P UnitTestPOC
git log -2 --oneline --color | cat
1d46c6c12 Revert "broken commit"
e0a2e4039 broken commit
```

git branch [▶ Git Dokumentation](#)

- ▶ Durchsuchen
- ▶ Hinzufügen
- ▶ Löschen

```
# list merged branchesNN
git branch --merged master
# delete local MyBranch
git branch -d MyBranch
# list info of local branches
git branch -vv
```



```
~/git_repositories/zooroyalweb  P UnitTestPOC 2
git branch -vv

~/git_repositories/zooroyalweb  P UnitTestPOC 2
git branch -vv --color | cat
DEV-1955      2b10de411 [origin/DEV-1955: ahead 8, behind 429] D
introduced, codestyle
* UnitTestPOC 1d46c6c12 [origin/UnitTestPOC: ahead 2] Revert "br
master       7eef1eee0 [origin/master: ahead 1] CHAAAAAANGES

~/git_repositories/zooroyalweb  P UnitTestPOC 2
git branch -D master
Deleted branch master (was 7eef1eee0).

~/git_repositories/zooroyalweb  P UnitTestPOC 2
git branch --merged master
fatal: malformed object name master

~/git_repositories/zooroyalweb  P UnitTestPOC 2
```



- ▶ Einsteigerkurs von GitHub
- ▶ Roger Dudlers Git Guide
- ▶ Git Tricks



Danke für eure Aufmerksamkeit!