



Arbeit mit Git

Wintersemester 2024/25

Bachelorprojekt

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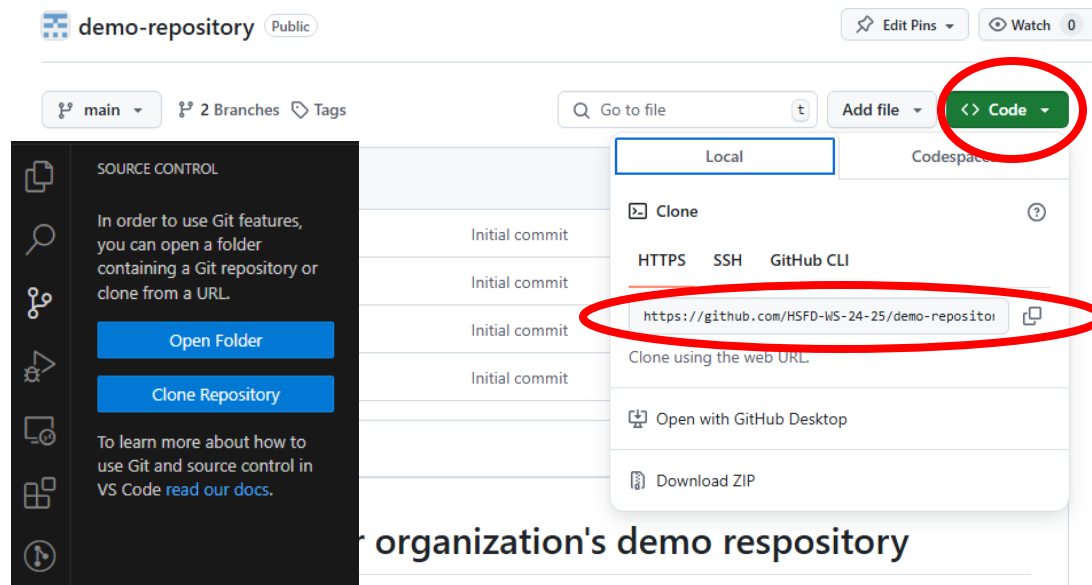


Gliederung

- Arbeiten am Projekt – 1
- Verbindung aufsetzen per SSH
- Arbeiten am Projekt – 2
- Workflow
- Issues, Project-Overview



Arbeiten am Projekt - 1



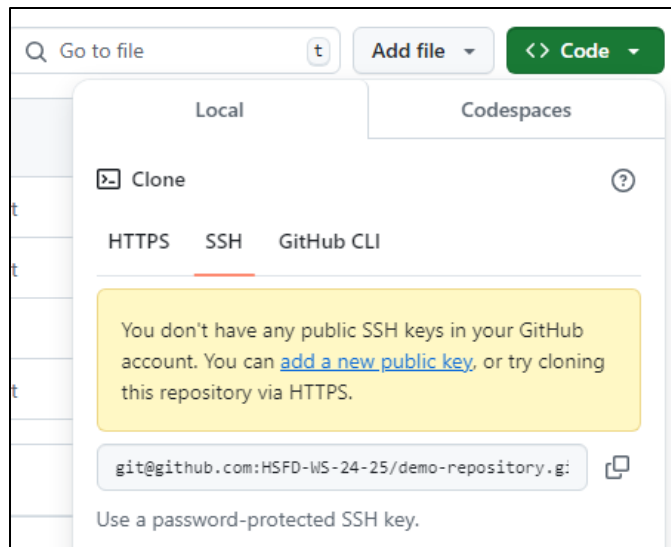
```
> git clone git@github.com:HSFD-WS-24-25/demo-repository.git
Klone nach 'demo-repository' ...
remote: Enumerating objects: 12, done.
remote: Counting objects: 100% (12/12), done.
remote: Compressing objects: 100% (11/11), done.
remote: Total 12 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
Empfange Objekte: 100% (12/12), fertig.
Löse Unterschiede auf: 100% (2/2), fertig.
```

- "git clone <URL>" wird von Windows und Linux unterstützt
- Bei privaten Repos i.d.R. Authentifizierung erforderlich
- ... oder direkt aus VS-Code



Verbindung Aufsetzen – SSH im Terminal

- ssh-keygen
- cd .ssh
- cat id_rsa.pub
- <KEY kopieren>



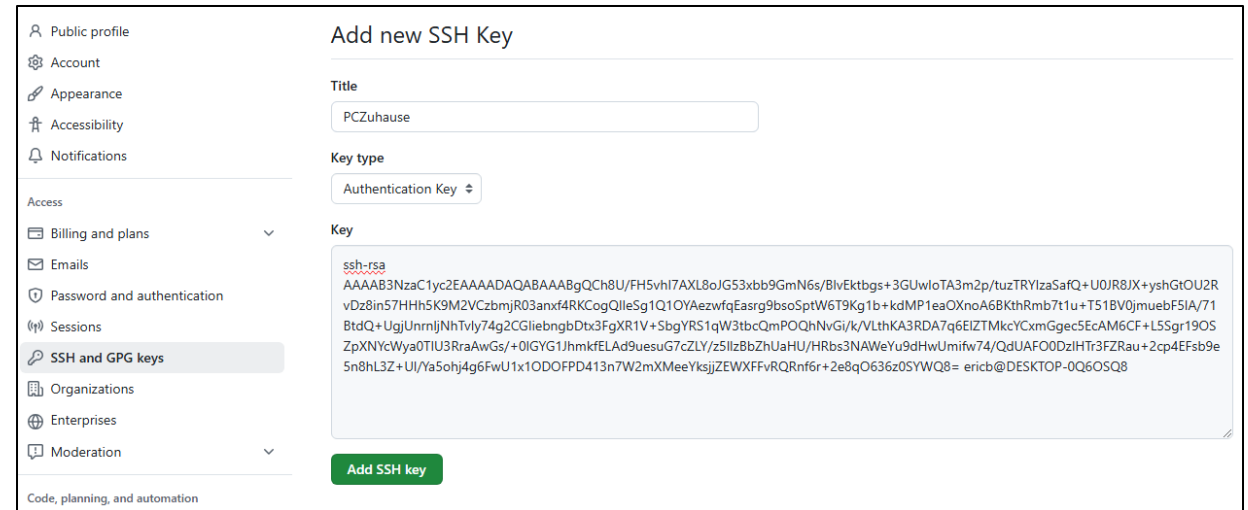
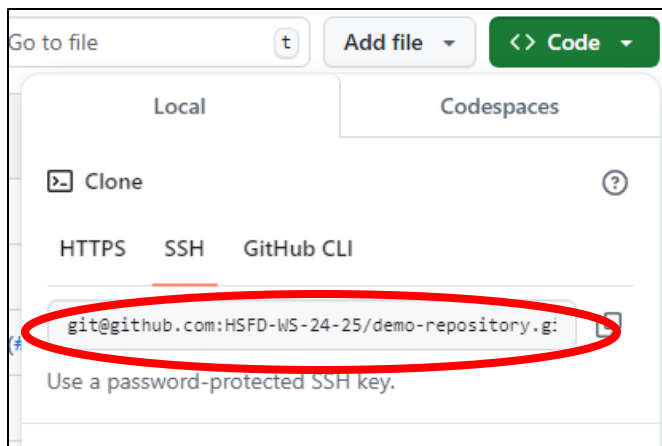
```
Windows PowerShell
PS C:\Users\ericb> ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (C:\Users\ericb/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in C:\Users\ericb/.ssh/id_rsa.
Your public key has been saved in C:\Users\ericb/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:eo10hjk+4LVsxUiZ+0PLjRecwUkVA2ExAS5h42rYV10 ericb@DESKTOP-0Q60SQ8
The key's randomart image is:
+---[RSA 3072]-----+
|  + ..E*+.          |
|  o = o.. .         |
|  +ooo .            |
|  o o+. +           |
|  . =. +S. o         |
|  o. ++++o+         |
|  . +=*+=..          |
|  ..** o             |
|  ....o              |
+---[SHA256]-----+
PS C:\Users\ericb>
```

```
Windows PowerShell
PS C:\Users\ericb> cd ~/.ssh\
PS C:\Users\ericb\.ssh> cat .id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQCh8U/FH5vhI7AXL8oJG53xbb9GmN6s/B1vEktbgs+3GUwIoTA3m2p
/tuzTRYIzaSaFQ+U0JR8JX+yshGtOU2RvDz8in57HHh5K9M2VCzbmjR03anxf4RKCogQ1IeSg1Q10YAezwfqEasrg9b
soSptW6T9Kglb+kdMP1eaOXnoA6BKthRmb7t1u+T51BV0jmuebf51A/71BtdQ+UgjUnrn1jNhTvly74g2CGIiebngbD
tx3FgXR1V+SbgYRS1qW3tbcQmPOqhNvGi/k/VLthKA3RDA7q6E1ZTMkcYCxmGgec5EcAM6CF+L5Sgr19OSZpXNYcWya
0TIU3RraAwGs/+01GYG1JhmkfELAd9uesuG7cZLY/z51lzBbZhUaHU/HRbs3NAWeYu9dHwUmfW74/QdUAF00Dz1HTr
3FZRau+2cp4EFsb9e5n8hL3Z+U1/Ya5ohj4g6FwU1x10DOFPD413n7W2mXMeeYksjjZEWFfVQRn6r+2e8q0636z0
SYWQ8= ericb@DESKTOP-0Q60SQ8
PS C:\Users\ericb\.ssh>
```



Verbindung Aufsetzen – SSH im Terminal

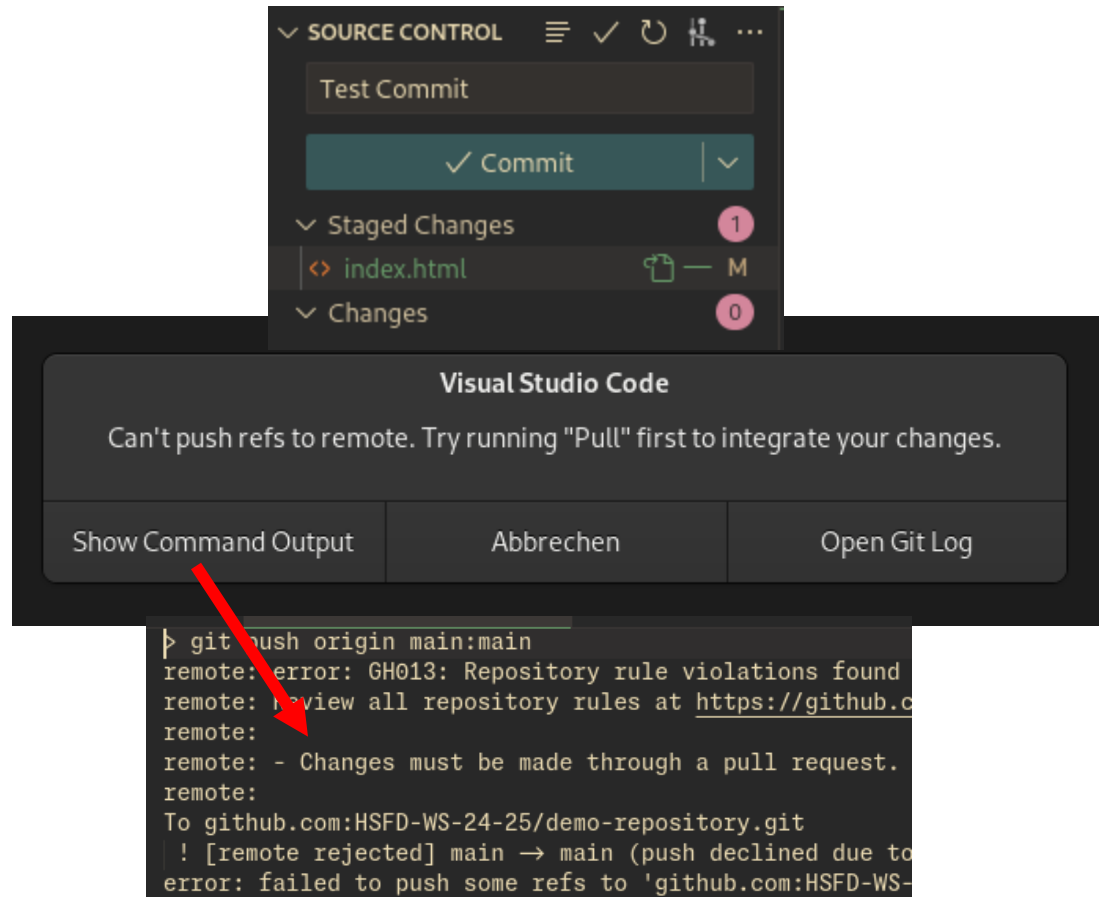
- GitHub Einstellungen > SSH and GPG keys
- Kopierter SSH-Key einfügen und erzeugen
- SSH-Adresse kopieren
- Projektordner erstellen und navigieren (cd ...)
- git clone <Adresse>



```
Windows PowerShell
PS C:\Users\eribc> cd .\Desktop\Bachelorprojekt\
PS C:\Users\eribc\Desktop\Bachelorprojekt> git clone git@github.com:HSFD-WS-24-25/demo-repository.git
Cloning into 'demo-repository'...
The authenticity of host 'github.com (140.82.121.3)' can't be established.
ED25519 key fingerprint is SHA256:+DiY3wvV6TuJJhpbZisF/zLDA0zPMSvHdkr4UvC0QU.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added 'github.com' (ED25519) to the list of known hosts.
remote: Enumerating objects: 21, done.
remote: Counting objects: 100% (21/21), done.
remote: Compressing objects: 100% (17/17), done.
remote: Total 21 (delta 7), reused 7 (delta 3), pack-reused 0 (from 0)
Receiving objects: 100% (21/21), done.
Resolving deltas: 100% (7/7), done.
PS C:\Users\eribc\Desktop\Bachelorprojekt>
```



Arbeiten am Projekt - 2



- Regel nicht beachtet, kein "Sync Changes" möglich
- "Show Command Output" gibt mehr Info
- Lösung: Neuer Branch



Workflow 1

```
welkor@iudex:~/Desktop/test repo/demo-repository$ git checkout -b neues-feature
```

- Neuen Branch erstellen

```
welkor@iudex:~/Desktop/test repo/demo-repository$ git pull
```

- Änderungen integrieren


- Lokale Änderungen vornehmen

```
welkor@iudex:~/Desktop/test repo/demo-repository$ git add -u  
welkor@iudex:~/Desktop/test repo/demo-repository$ git commit -m "Beschreibung"  
welkor@iudex:~/Desktop/test repo/demo-repository$ git push
```

- Commit vorbereiten



Workflow 2

 RuleTesting had recent pushes 9 minutes ago

Compare & pull request

Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#). [Learn more about pull requests](#)

base: main ← compare: RuleTesting ✓ **Able to merge.** These branches can be automatically merged.



Add a title

Regeln angepasst

Add a description

Write Preview

Die Regeln aus #1 sollten jetzt umgesetzt sein

Markdown is supported Paste, drop, or click to add files

Create pull request

- Branch synchronisieren
- Pull Request erstellen



Workflow 3

1 Open 0 Closed

Regeln angepasst ✓ #2 opened 3 minutes ago by Mac10goesBRRRT • Review required

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

All checks have passed Show all checks
2 successful checks

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

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

○ Code-Review

```
welkor@iudex:~/Desktop/test repo/demo-repository$ git checkout main
welkor@iudex:~/Desktop/test repo/demo-repository$ git pull origin main
welkor@iudex:~/Desktop/test repo/demo-repository$ git branch -d neues-feature
```

○ Branch aufräumen



Workflow 4

Finish your review

Write

Preview

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Die Regeln wurden richtig umgesetzt

📄 Markdown is supported

📁 Paste, drop, or click to add files

☐ Comment

Submit general feedback without explicit approval.

☒ Approve

Submit feedback and approve merging these changes.

☐ Request changes

Submit feedback that must be addressed before merging.

Submit review

✓ Changes approved

1 approving review by reviewers with write access. [Learn more about pull request reviews.](#)

✓ 1 approval

✓ All checks have passed

2 successful checks

✓ This branch has no conflicts with the base branch

Merging can be performed automatically.

Squash and merge

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

[Show all reviewers](#)

[Show all checks](#)

Pull request successfully merged and closed

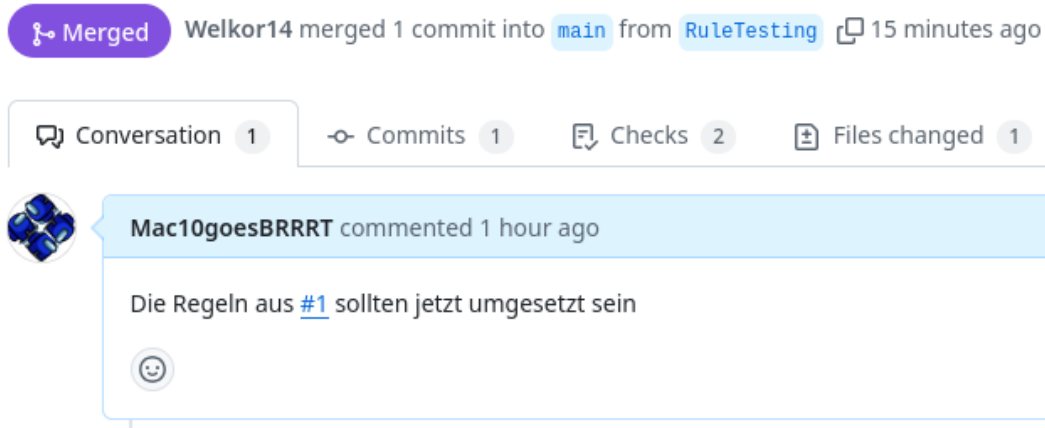
You're all set—the `RuleTesting` branch can be safely deleted.

Delete branch



Issues, Project-Overview - 1

Regeln angepasst #2



- Issues erlauben Bug-Reports
- Project-Overview als Storyboard
 - Issue aus Item aus Storyboard
 - Items in Backlog erstellen
 - Zuweisen, Priorität
 - Mit "#" verlinken
- Verlinken wichtig für Überblick



Issues, Project-Overview - 2

○ **Backlog** 0 / 3 Estimate: 0 ...

This item hasn't been started

○ **Ready** 0 Estimate: 0 ...

This is ready to be picked up

○ **In progress** 0 / 3 Estimate: 0 ...

This is actively being worked on

○ **In review** 0 / 5 Estimate: 0 ...

This item is in review

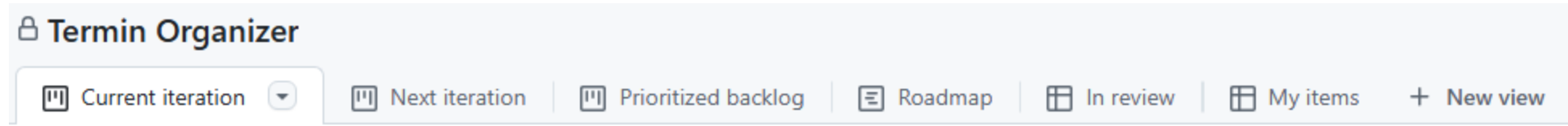
○ **Done** 1 Estimate: 0 ...

This has been completed

- backlog:
 - geplante User Stories
- ready:
 - Stories die ausreichend definiert sind
- in progress:
 - Wird gerade bearbeitet
- in review:
 - Bereit zum Mergen
- done:
 - Item ist erledigt



Issues, Project-Overview - 3



- Iterationen immer eine Woche (Di-Mo)
- Items können Repo zugewiesen werden
- Items können in "Next Iteration" geplant werden
- Items können übernommen werden



Noch Fragen?

Ansonsten: Vielen Dank für eure Aufmerksamkeit!