

Git

Server Info	https://git.math.uzh.ch
Software	Gitlab
Git push/pull access	mainly via SSH over <code>git@git.math.uzh.ch</code> - ``do not forget to upload your public ssh key``
Cheat sheet	GIT for SVN users
Beginners Guide	Einsteiger-Guide-Wegweiser-durch-Git-GitHub-und-GitLab

Prerequisites

- [Git](#) installed (already done on IMATH server).

SSH Keys

To work with private GIT repos or to commit files, it's necessary to identify yourself. This is done via SSH Keys. Do this on all devices which you like to use with the GIT server (and in your I-MATH thinlinc session if you use it).

- Setup SSH keys (per device) - [HowTo create private/public ssh keys](#)

* Linux: On your device/session, push the keys to your ssh-agent

```
eval "$(ssh-agent -s)"
```

- Do a test:
 - Via ssh: `ssh -T git@git.math.uzh.ch` (do **not** replace `git` with your username, use **git@git.math.uzh.ch** as written).
 - By cloning a repo.

Git account

For members of I-MATH

- Use your regular 'I-MATH' account to login.
- https://git.math.uzh.ch/users/sign_in > Tab 'MATH User'

For members of UZH (not I-MATH)

- Open your I-MATH account (based on your UZH Webpass account) under <https://math.uzh.ch/account>
- https://git.math.uzh.ch/users/sign_in > Tab 'MATH User'

For non UZH persons

If you like to collaborate on a project which is hosted on <https://git.math.uzh.ch>, you have to request a git.math.uzh.ch account.

- Best is to ask a project member affiliated with I-MATH to request the account via <https://math.uzh.ch/support>.
- You will then receive an email for validation and first-time login.
- https://git.math.uzh.ch/users/sign_in > Tab 'Standard'

After the first-time login

- If you requested an "external" account, you will be asked to change your initial password.
- **Recommended:** You need to provide your public SSH key. This can easily be done on the Gitlab web-interface.

Working with Git

```
git COMMAND git@git.math.uzh.ch:<username>/<projectname>
```

Managing your Projects with Gitlab

Gitlab has quite extensive managing capabilities.

- You can, among other things,
 - Crate/fork/rename/remove projects
 - Create/delete/join Teams
 - Assign members with roles to projects
 - Create/Assign issues
 - Have a wiki for a project
- The gitlab user documentation is found on <https://git.math.uzh.ch/help/>.

GIT Best Practice

New project from scratch

- Create a new project via the webinterface.

 New Project         

Project name

Example Project

Namespace

Carsten Rose ▼

 Customize repository name?

 Import existing repository?

Description
(optional)

Awesome project

Visibility Level
(?)

☐  **Private**
Project access must be granted explicitly for each user.

☐  **Internal**
The project can be cloned by any logged in user.

☒  **Public**
The project can be cloned without any authentication.

Create project

Need a group for several dependent projects?

Create a group

- You'll see a summary with the next steps:

```
Git global setup
-----

git config --global user.name "First Lastname"
git config --global user.email "email@math.uzh.ch"

Create a new repository
-----

mkdir <local projektdir>
cd <local projektdir>
git init
touch README.md
git add README.md
git commit -m "first commit"
git remote add origin git@git.math.uzh.ch:<project>.git
git push -u origin master

Push an existing Git repository
-----

cd existing_git_repo
git remote add origin git@git.math.uzh.ch:<project>.git
git push -u origin master
```

GIT daily use

Local: Add new files to existing repo

```
git add <file>
```

Local: Work on your files

- Commit changes locally

```
git commit -a
```

- Or at IMATH you can use `git-commit`, which will in every file replace `$Id$` by User/timestamp:

```
git-commit
```

- Commit changes remote

```
git push
```

Local: clone an existing repo to start working on it

```
git clone git@git.math.uzh.ch:<project>.git
```

Purged Remote branches still shown locally

- See: <http://stackoverflow.com/a/17320081/1167442>

```
$ git remote update --prune
```

Purge a file completely from all commits & branches

- This is not how GIT should be used!
- ONLY, ONLY, ONLY do this if it is absolutely necessary!
- There might be side effects, you're on your own!
- Source: <https://github.com/nachoparker/git-forget-blob>

```
$ cd <root of your repo>  
$ git-forget-file.sh <path to file>/<file>
```

Overwrite local branch with remote

- <https://phoenixnap.com/kb/git-overwrite-local-branch-with-remote>

Visually show commit history

- `gitg`
- Use the git.math.uzh.ch webinterface

Search the commit which breaks something

- Based on binary search.
- Give a good and a bad commit.
- The `git bisect ...` command always looks for the commit in the middle. Do a check of such a commit and decide to continue the search in the lower or upper half.
- <https://git-scm.com/docs/git-bisect>

Mac OS X

git: xcrun missing

- By using `git` the following error is shown:

```
xcrun: error: invalid active developer path (/Library/Developer/CommandLineTools),  
missing xcrun at: /Library/Developer/CommandLineTools/usr/bin/xcrun
```

- Open a terminal and install `xcode`: a pop up have to acknowledged.

```
xcode-select --install
```

Umlaute

- MacOS X uses a different UTF8 encoding for filenames than MS-Windows and Linux.
- This leads to confusion. E.g.: after a fresh clone of a GIT repo (created on MS-Windows or linux) a `git status` will show untracked files if they contain umlaut in their filenames, even without any change has been done!
- <https://www.git-tower.com/help/guides/faq-and-tips/faq/unicode-filenames/mac>
- To fix this, one option is to change the handling of filenames in the local git configuration:

```
$ git config --global core.precomposeunicode false
```

- After that, clone the repository again.

GIT Client

- <https://www.sourcetreeapp.com/?ref=catalins.tech>

FAQ

Change Repo: http > ssh

```
# Status Quo
$ git remote -v show
origin=https://systemvcs.math.uzh.ch/it/typo3-docker.git (fetch)
origin=https://systemvcs.math.uzh.ch/it/typo3-docker.git (push)

# Remove Origin
$ git remote rm origin

# Set SSH Version
$ git remote add origin git@systemvcs.math.uzh.ch:it/typo3-docker.git

# Status Quo
git remote -v show
origin=git@systemvcs.math.uzh.ch:it/typo3-docker.git (fetch)
origin=git@systemvcs.math.uzh.ch:it/typo3-docker.git (push)

# Try a git pull:
$ git pull

# If you receive: There is no tracking information for the current branch. ... try:
$ git branch --set-upstream-to=origin/main main
```

Attention: if you change to SSH and

- You use SSH public key (stored on GIT server),
- You're logged in on a remote server by ssh and you're using a different user ID than the one where the public key on the git server belongs to,

than you should forward your SSH-Agent! E.g. **ssh root@host -A**

Pipeline failed notification

- Maintainer receives all pipeline errors per mail by default

✖ Your pipeline has failed.

Project Benjamin Baer / pages-hexo

Branch  master

Commit  [756dfc9d](#)
adding ci and gitignore

Commit Author  Benjamin Baer

Pipeline #701 triggered by  Benjamin Baer

had 1 failed build.

Logs may contain sensitive data. Please consider before forwarding this email.

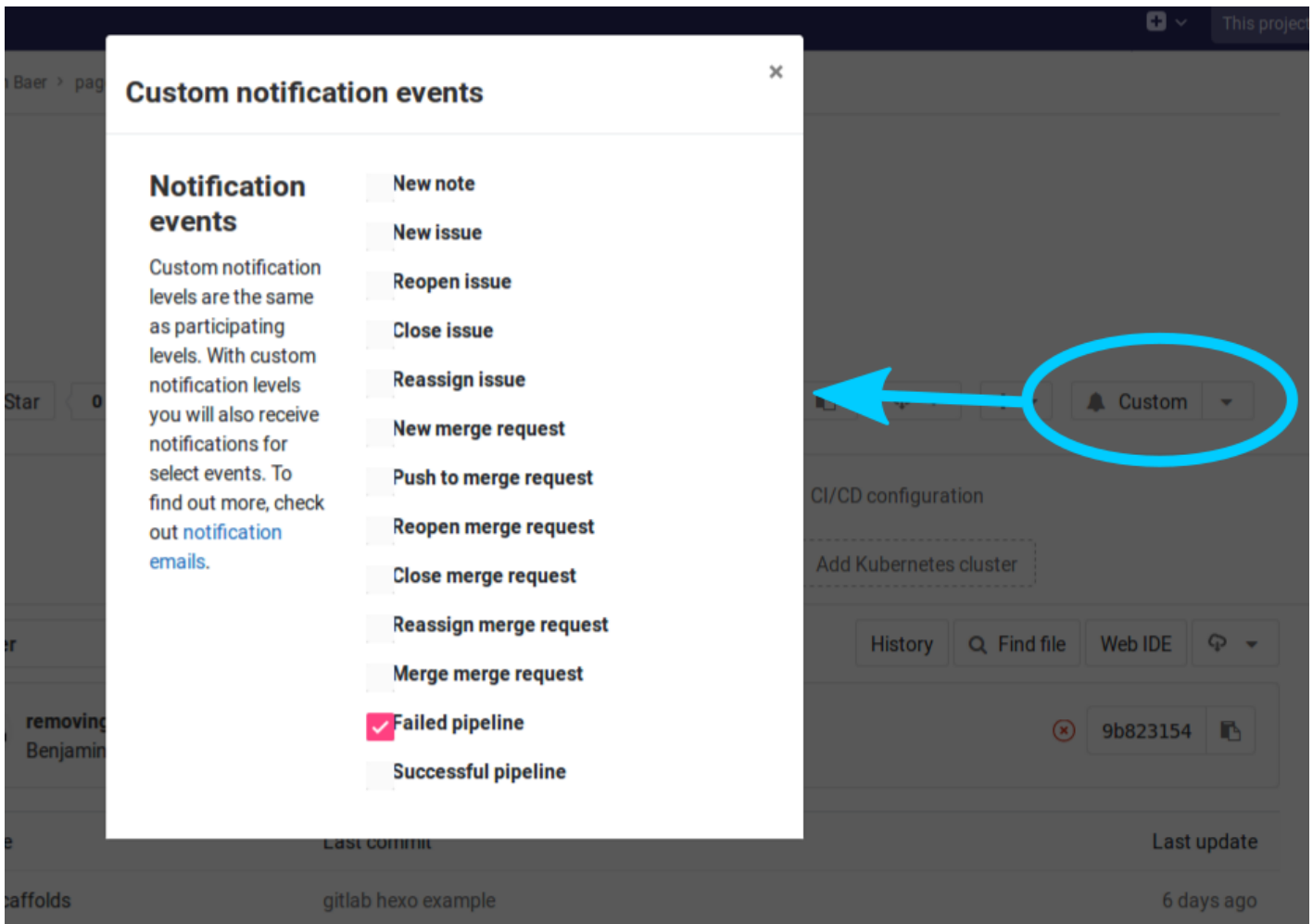
✖ test

pages

```
npm ERR!   code: 'EACCES',
npm ERR!   syscall: 'access',
npm ERR!   path: '/usr/sepp1.5.1/drwho/pack-a/nodejs-6.10.1-ro/amd
64-linux-ubuntu16.04/lib/node_modules' }
npm ERR!
npm ERR! Please try running this command again as root/Administrat
or.

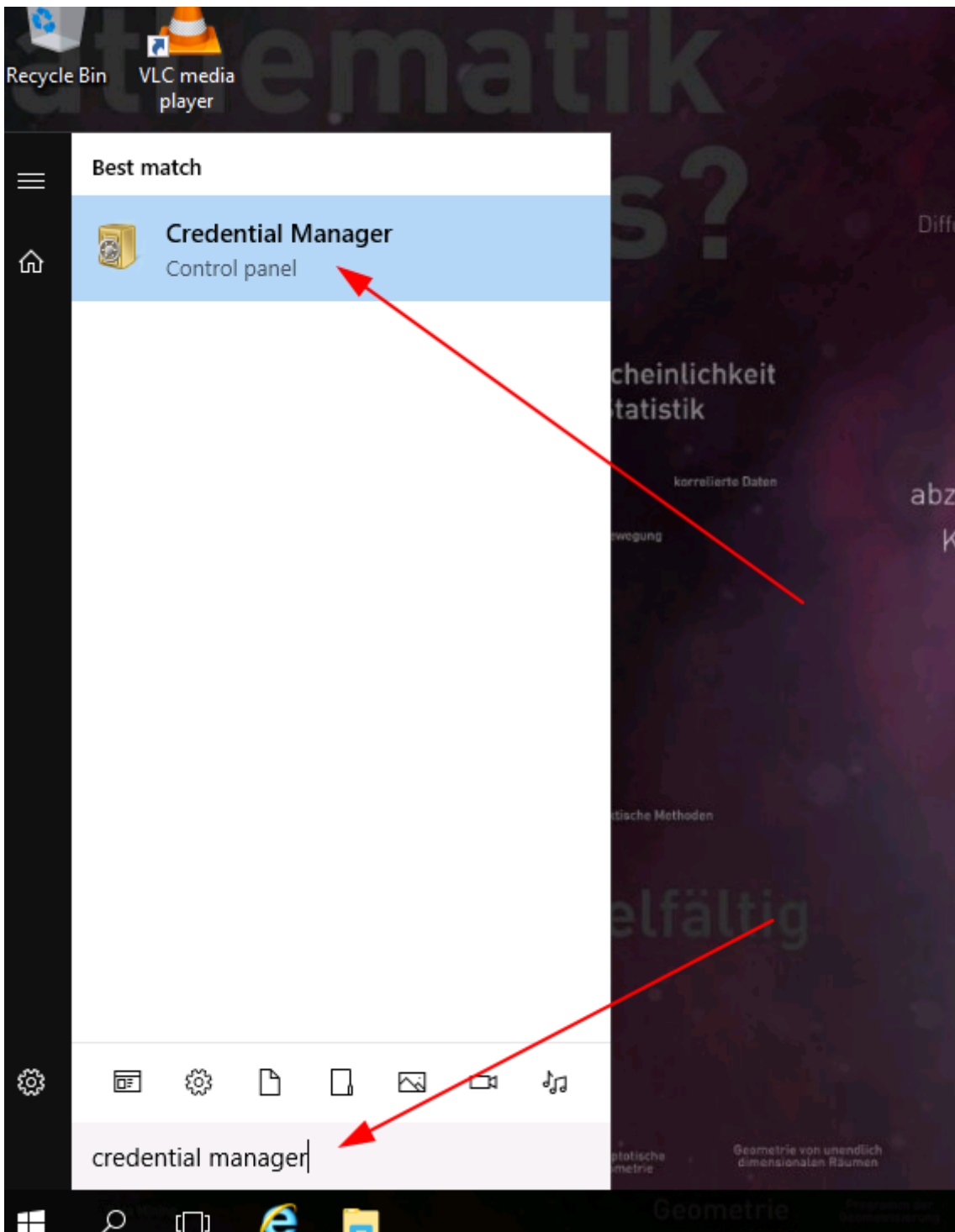
npm ERR! Please include the following file with any support reques
t:
npm ERR!   /home/gitlab-runner/builds/7e3e234d/0/bbaer/pages-hex
o/npm-debug.log
ERROR: Job failed: exit status 1
```


- Others can subscribe to it on the main site of a project:



Windows Change Saved Git Password

- Open "Credential Manager" (German: "Anmeldeinformationsverwaltung")



- Choose "Windows Credentials" (German: "Windows-Anmeldeinformationen") and remove all saved credentials for Git.

Manage your credentials

View and delete your saved logon information for websites, connected applications and networks.

**Web Credentials**

**Windows Credentials**

[Back up Credentials](#) [Restore Credentials](#)

Windows Credentials

[Add a Windows credential](#)

*Session

Modified: Today 

Certificate-Based Credentials

[Add a certificate-based credential](#)

No certificates.

Generic Credentials

[Add a generic credential](#)

git:https://git.math.uzh.ch

Modified: Today 

Internet or network address: git:https://git.math.uzh.ch

User name: megger

Password:

Persistence: Local computer

[Edit](#) [Remove](#)

git:https://megger@git.math.uzh.ch

Modified: Today 

Internet or network address: git:https://megger@git.math.uzh.ch

User name: megger

Password:

Persistence: Local computer

[Edit](#) [Remove](#)

virtualapp/didlogical

Modified: 12/07/2019 

Other Items

SSO_POP_Device

Modified: Today 

- Use git as usual, you will be asked to enter your password

Access via HTTPS by using MFA

- This is not possible
- Instead create a personal access token and use that one - [HowTo](#)
- Option: Instead of HTTPS use SSH.

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