



Berner Fachhochschule
Haute école spécialisée bernoise
Bern University of Applied Sciences

Git

Linux User Group Meeting #4 (rerun)

Thursday, 11th December 2014 16:30 - 17:30

BFH - Room HG 408 (Quellgasse, Biel)

Daniel Baumann <daniel.baumann@bfh.ch>

IT System Engineer, Team Infrastructure Services

Overview

▶ **Version Control**

▶ **Git Installation**

▶ **Git Configuration**

▶ **Git Basic Usage**

Version Control System

Version Control Systems

What?

- ▶ Version or Revision Control is any kind of practice that tracks and provides control over changes.

Why?

- ▶ Tracking Information: See who did what, why and when
- ▶ Handling Versions: Easy reverts, easy branching
- ▶ Exchange Content: Collaborate with others

How?

- ▶ Local Version Control
- ▶ Central Version Control
- ▶ Distributed Version Control

Git Installation

Git Installation

Linux

- ▶ `sudo apt install git`

Windows

- ▶ <http://git-scm.com/download/win>

Packages integrated with a recent OpenSSH coming soon in the BFH Software Self-Service Portal

Mac OS X

- ▶ <http://git-scm.com/download/mac>

Additional Utilities...

- ▶ see <https://linux.bfh.ch/software/git/installation/>

Git Configuration

Git Configuration (1/3)

Configuration Locations

- ▶ System: `/etc/gitconfig`
Configuration per system, settings apply to all users and all repositories access from that system.
- ▶ Global: `~/.gitconfig` or `~/.config/git/config`
Configuration per user, settings apply to all repositories access by that user.
- ▶ Local: `${repository}/.git/config`
Configuration per repository, settings apply to anyone accessing that repository.
- ▶ Rule: If a configuration is made in two locations, the more specific one overwrites the less specific one.

Git Configuration (2/3)

Name and Email

- ▶ `git config --global user.name "John Doe"`
- ▶ `git config --global user.email john.doe@example.org`

Pull

- ▶ `sudo git config --system pull.rebase true`

Colors

- ▶ `sudo git config --system color.ui true`

Decorations

- ▶ `sudo git config --system log.decorate true`

Git Configuration (3/3)

Whitespace

- ▶ `sudo git config --system core.whitespace blank-at-eol,space-before-tab,indent-with-non-tab,blank-at-eof`

Differences

- ▶ `sudo git config --system diff.renames copies`

Push

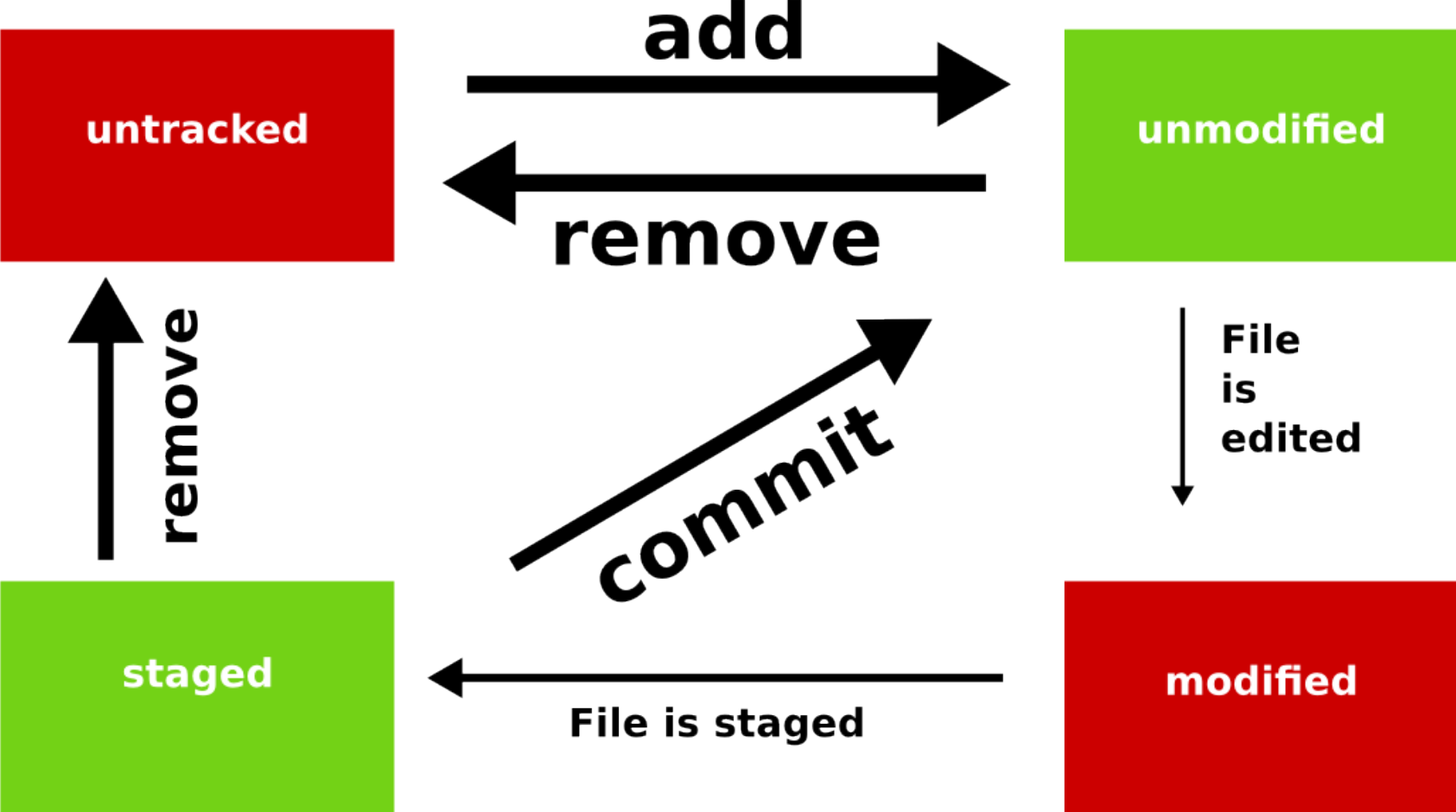
- ▶ `git config --global push.default matching`

Bash prompt and more...

- ▶ see <https://linux.bfh.ch/software/git/configuration/>

Git Usage

Git: States



Basic Usage (1/2)

Download a repository from the server to your computer

- ▶ `git clone git@git.example.org:[...]/${repository}.git`

Update an existing repository with changes from the server to your computer

- ▶ `git pull`

Check what has changed in the repository on your computer

- ▶ `git status`

Check how it has changed in the repository on your computer

- ▶ `git diff`

Basic Usage (2/2)

Save your changes as a commit

- ▶ `git commit -a -m "My commit message."`

Push your commit(s) from your computer to the server

- ▶ `git push`

Show the list of your commits

- ▶ `git log`

Further Information

BFH

- ▶ <https://linux.bfh.ch/software/git>
- ▶ <https://linux.bfh.ch/services/git>

- ▶ <https://linux.bfh.ch/software/openssh>

- ▶ ...and bfh-linux-users@lists.bfh.ch as usual ;)

Manual pages

- ▶ `man git`

- ▶ We'll have a „Git, part 2“ meeting in January 2015.

Thank You for Your Attention.

♥ Source Code is freely available

```
git clone git://git.bfh.ch/git/staff/bad9/other/talks.git
```