







Practice 2 Git, Version Control

Version Control

- System that records changes to a file or set of files
 Server Computer
 - Specific versions can be recalled later
- Distributed Version
 - Control Systems (DVCSs)







Git Identity

- After installation, set user name and email address
 - \$ git config --global user.name
 "SomeOne"
 - \$ git config --global user.email
 someone@domain.com
 - Git commit uses these informations

Creating local repository

- New repository
 - Go to the project's directory
 - \$ git init

Cloning existing repository

- Go to the project's directory
 - \$ git clone [url] [target]
 - e.g.:
 - \$ git clone https://github.com/...

Recording changes to the repository



How to add/remove files to/from the staging area

To add file to the staging area

\$ git add filename

To remove the added file from staging area

\$ git reset HEAD filename



Commit

- To save your files in the repository
 - \$ git commit -m "custom message"

The whole staging area gets committed

Commit messages are always between quotation marks!!!



Git branching

Default and main branch: master



Git branching

- Create new branch
 - \$ git branch branch_name
- Switch to other branch
 - \$ git checkout branch_name
 - Files are committed into the active branch!!!
- Delete a branch
 - \$ git branch -d branch_name
- Merge branches
 - The active branch receives the feature
 - \$ git merge feature_branch

Git remote

- List remotes (e.g.: from BitBucket)
 - \$ git remote show
- List remote branches
 - \$ git remote show remote_name
 - e.g.: \$ git remote show origin
- Push commit
 - \$ git push remote branch_name
 - e.g.: \$ git push origin master

Merge conflict

- Before merge new features, a commit occured on the master
 - Maybe the same exact files get altered in the new branch and in the master

When you want to merge the two branches, Git doesn't know which changes you want to keep







Main differences

- GitHub:
 - Mainly for open source projects (public)
 - Unlimited number of users can work in one repository for free
 - private repositories are not free
- BitBucket:
 - Mainly for private projects (private)
 - Unlimited number of private repositories for free
 - Each private repository works up to 5 users for free
 - No free public repositories