

11/23/2011

Standard git workflows

#1 Bug integration

Thomas Kilgus

- What is a commit?
 - A snapshot of the code at a specific time (in git repr.)
- How frequently should I commit my changes?
 - As often as possible/reasonable (e.g. a small function)
- What is a branch?
 - A pointer to a commit/snapshot
- What is HEAD?
 - A snapshot of your last commit
- What is the index?
 - A snapshot of your next commit
- What does fetch mean?
 - Get changes from the repository, but do not apply them
- What does merge mean?
 - Apply changes to a branch

Git basics: How to find help?

- Most of the time Git shows possibilities/solutions:
 - `$ git status`
 - `# On branch master`
 - `# Changes to be committed:`
 - `# (use "git reset HEAD <file>..." to unstage)`
 - `#`
 - `# modified: README.txt`
 - `#`
- Else:
 - `$ git „command“ --help`
 - <http://progit.org/>

- 1. git checkout master
- 2. git pull (origin/master)
- 3. git checkout -b bug-9999-SomeReadableName
- 4. Change some code
- 5. git commit --am „Document your changes“
- 6. Repeat 4. + 5. until you are finished
- 7. Perform 1. + 2. again to update your master
- 8. git merge --no-ff bug-9999-SomeReadableName
- 9. Optional: Conflicts
 - git mergetool and solve the conflicts
 - git commit (Do not change the message here!)
- 10. git push

- Oh no! The push failed!
- Read the message carefully:
 - kilgus@mbi015:~/local/RenderingWorkDir\$ git push
 - Counting objects: 12, done.
 - Delta compression using up to 4 threads.
 - Compressing objects: 100% (7/7), done.
 - Writing objects: 100% (7/7), 675 bytes, done.
 - Total 7 (delta 5), reused 0 (delta 0)
 - remote: Update hook checks refs/heads/master ...
 - remote: Core commit without Core_modification flag: [9669d8]: Merge branch 'bug-9562-CommentaryTest'
 - remote:
 - remote: hooks/update.secondary died
 - remote: error: hook declined to update refs/heads/master
 - To git@mitk.org:MITK.git
 - ! [remote rejected] HEAD -> master (hook declined)
 - error: failed to push some refs to 'git@mitk.org:MITK.git'

- Oh no! The dashboard is red!
- git checkout bug-9999-SomeReadableName
- Fix the code
- git commit --am "COMP: Im so sorry. Should be green now!"
- git checkout master (git pull)
- git merge --no-ff bug-9999-SomeReadableName
- git push

- Welche git Befehlsfolge spiegelt eine typische Integration eines Bugs in den Master wieder? Der Master up to date, Ausgangspunkt ist der Bug Branch und es gibt lokale Änderungen.
- A) Checkout, Commit, Merge, Push
- B) Clone, Push, Commit, Checkout
- C) Commit, Push, Checkout, Merge, Push
- D) Commit, Merge, Push