

Github for Dummies and Professors

Prof Bill - Created: May 2016 / Last update: Oct 2016

My quest - describe Github/git for a small team of developers in a 1-page handout. This page describes the normal workflow. The one-time setup for git/Github is on the next page.

Basic workflow using git - pull from origin (optional), branch, code, add/commit, pull (to merge), push... rinse and repeat

```
# 1. pull (get) the latest version of code from remote repo;  
# unnecessary if you just did a clone  
git pull origin master  
  
# 2. create a new branch for your work  
git checkout -b <branch-name>  
  
# 3. work. code. work. code. etc.  
  
# 4. add and commit all changes to your local repo  
git add -A  
git commit -m <your-message>  
  
# 5. pull down current repo code and merge them into your branch  
# Fix any merge problems/erros here!  
git pull origin master  
  
# 6. push your work up to the Github repo; origin is the default  
# Github asks for your user name and password here.  
git push origin <branch-name>  
  
# 7. return to master branch  
git checkout master
```

Github Pull - The last step is a Github operation. Login to Github, goto your team's repo, and open a "Pull Request" for your branch. The request is sent to a repo "owner" who accept your request. If you're an owner, you can accept your own request.

Last step - That's it. Loop back to step 1.

Github Setup - You'll probably do these things once.

- Get a Github account: www.github.com.
- Organizations: We setup a Github organization and then invited people to be members of that organization.
- Git will ask for your remote repo's URL. Goto the repo page on Github and select "Clone or Download". Copy the URL.
- Once you have git running, configure global settings to work with Github account.

```
git config --global user.email <your-github-email>
git config --global user.name <your-github-username>
git config --global push.default simple
```

On Cloud9 - You should have git already there. Just tell it where your remote repo is.

```
git remote add origin <github-repo-URL>
git pull origin master # enter normal work flow
```

On PC/Mac - You may need to install git here.

- At Noctrl, a shell called **git_bash** is already installed. Run that!
- Or, download git to your local machine: git-scm.com/downloads
- Configure git with some global settings you'll need as shown above
- Clone the remote Github report to your local machine.

```
# clone copies the remote team repo to your local machine;
# it creates a folder for the repo
git clone <github-repo-URL>
```

Handy git commands - Just a few handy commands.

- `git status` - Report files that haven't been added to git yet and other stuff.
- `git remote -v` - Shows all remote repos, like the one you have cloned!
- `git reset` - This is (sort of) a git undo command. Google them for more info.
- `git branch -a` - Shows your current git branches: local and remote.
- `git branch -d <branch>` - delete an existing branch, if you're done with it.

Resources - other places for intro information.

- ❖ git-scm.com/book/en/v2 - if you want to go deeper, this is a book called "Git Pro"
- ❖ rogerdudler.github.io/git-guide/ - a good github intro... his "Cheat Sheet" is nice
- ❖ try.github.io/levels/1/challenges/1 - This is an interactive demo where you enter git commands and see the result of their execution. It's just OK

That's it: git checkout master. (ha)

thanks... yow, bill (wtkrieger@noctrl.edu)