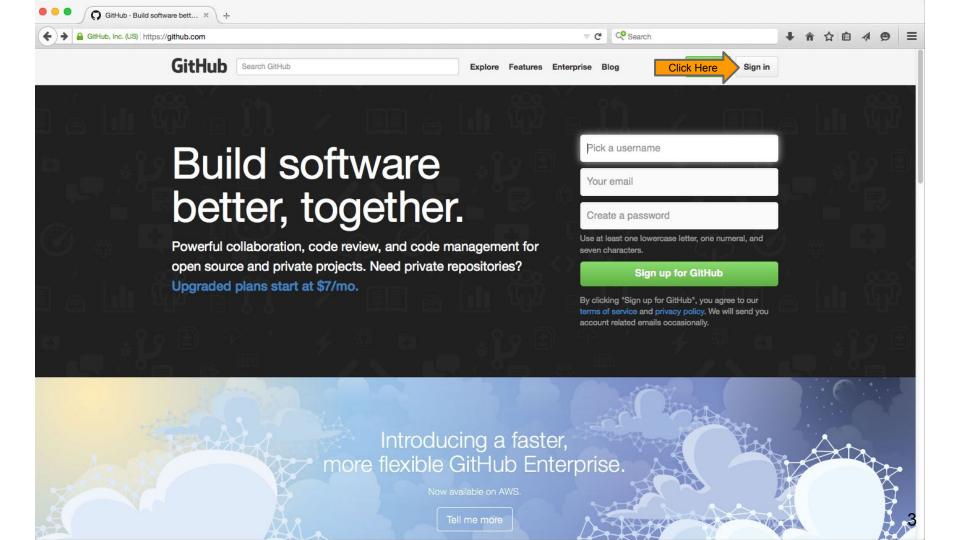
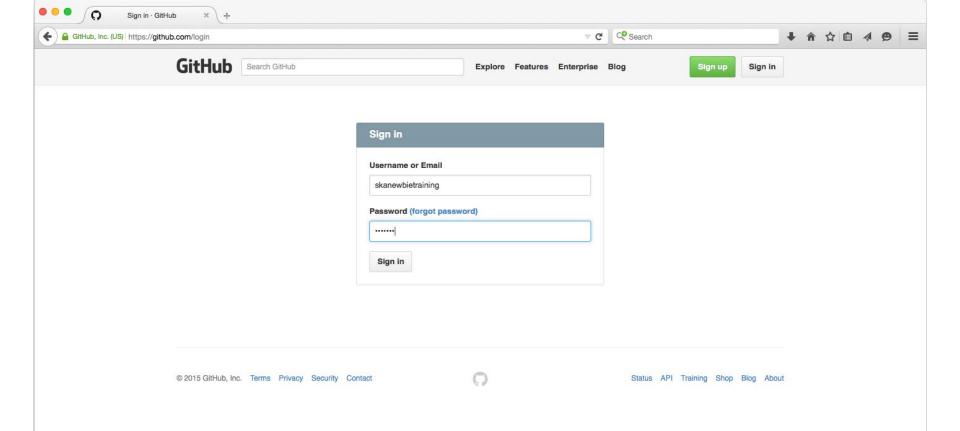
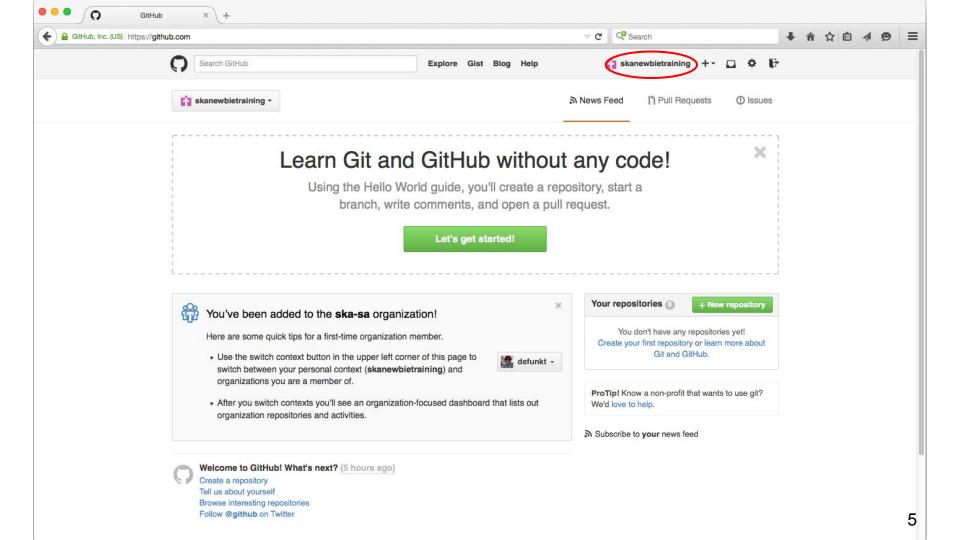
# **GitHub for Astronomers**

Basic Usage

# Logging in to GitHub





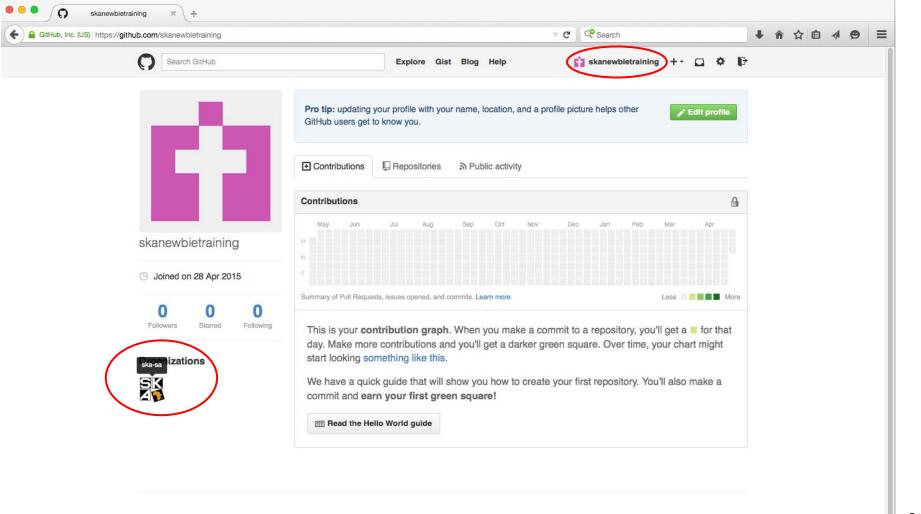


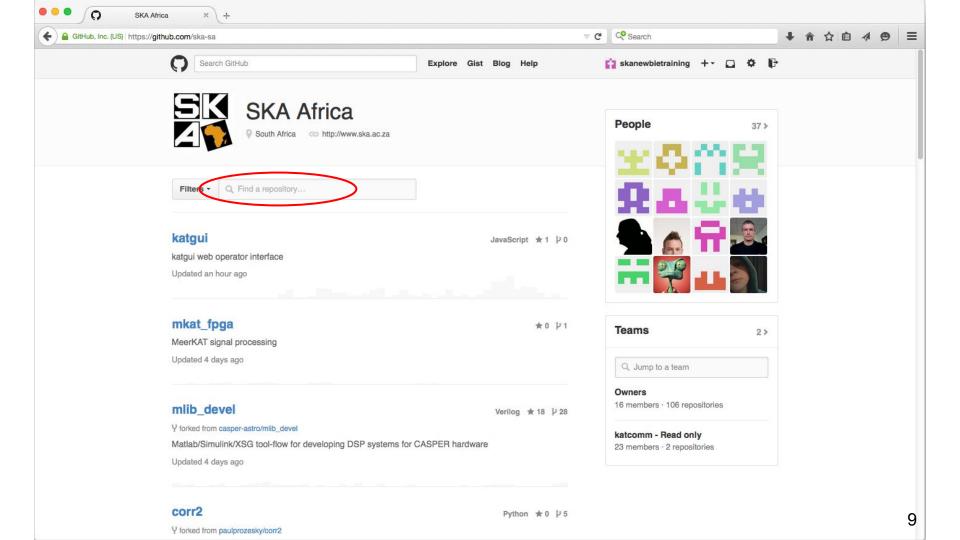
#### The GitHub Workflow

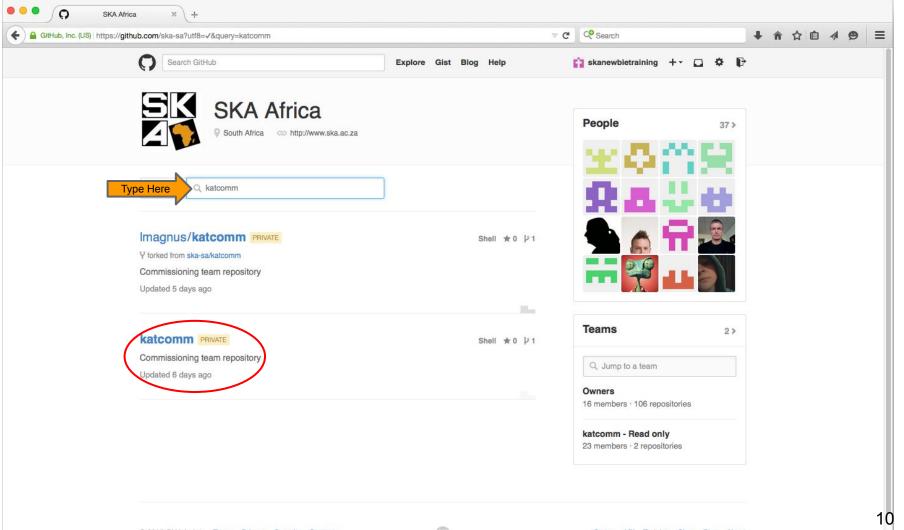
This is the workflow I recommend you use when you want to contribute to projects on GitHub.

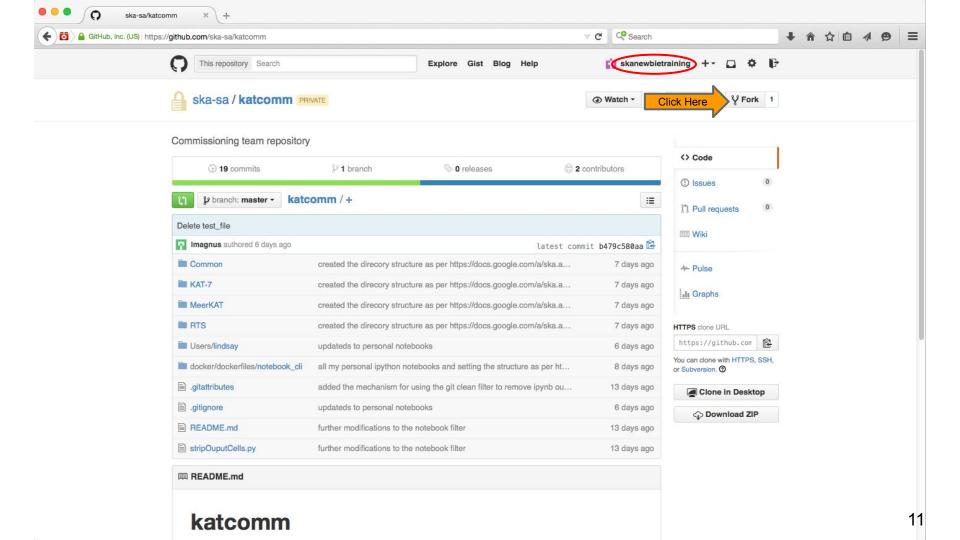
- 1. **fork** a project on github.
- 2. **clone** your github fork to your computer
- 3. [optional] **create a topic branch** for your own work in your local clone
- 4. make your **changes** on your computer
- 5. **commit** changes to your local repository
- 6. **push** the changes to your github fork
- 7. send a **pull request** back to the original project

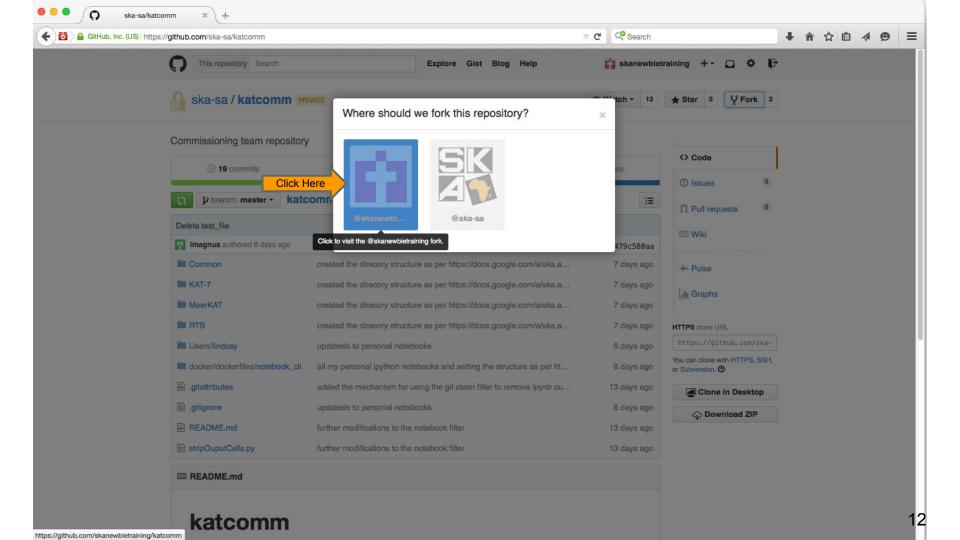
### Forking a repository

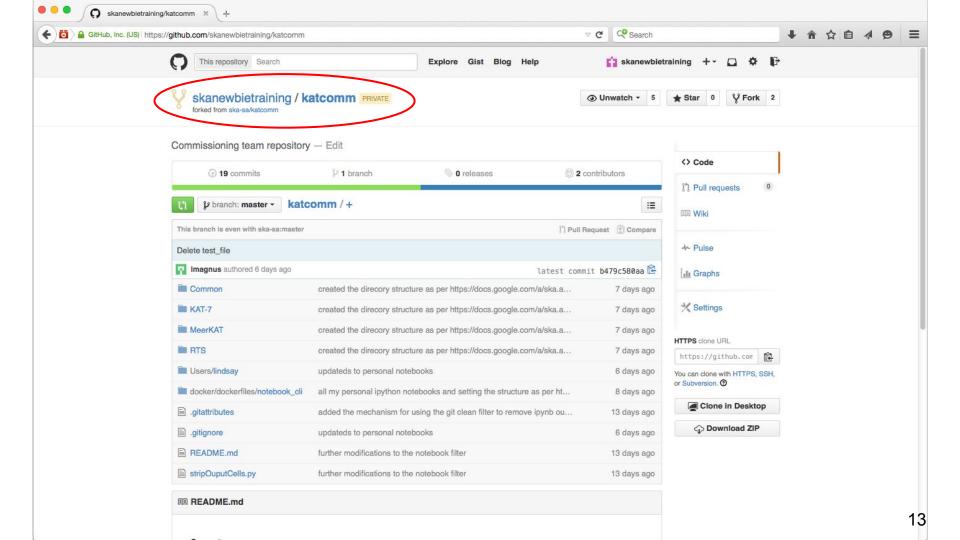


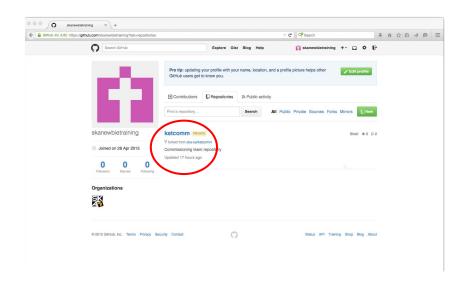


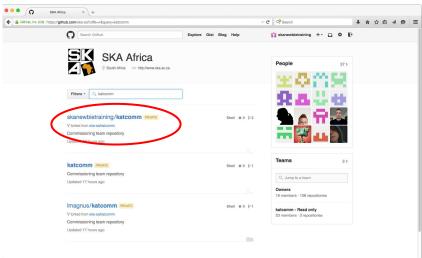




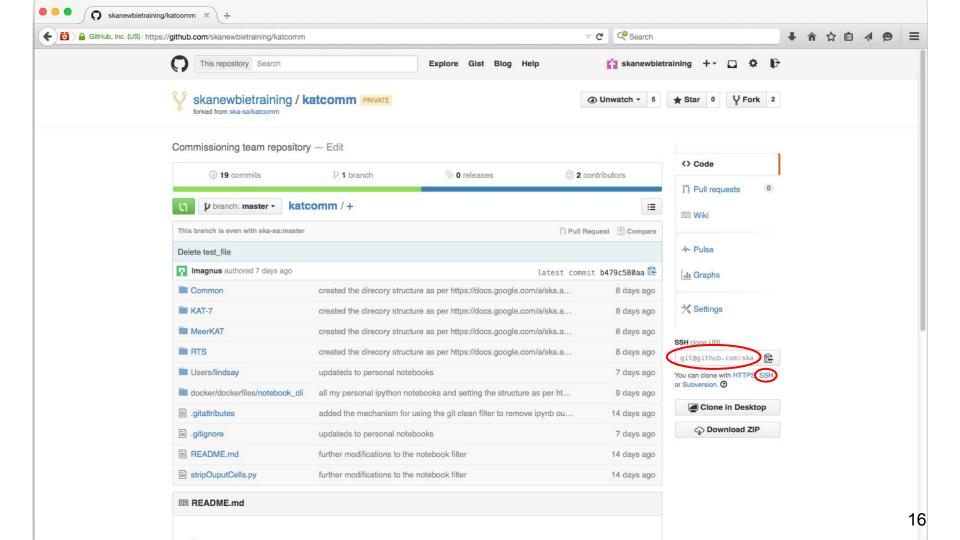


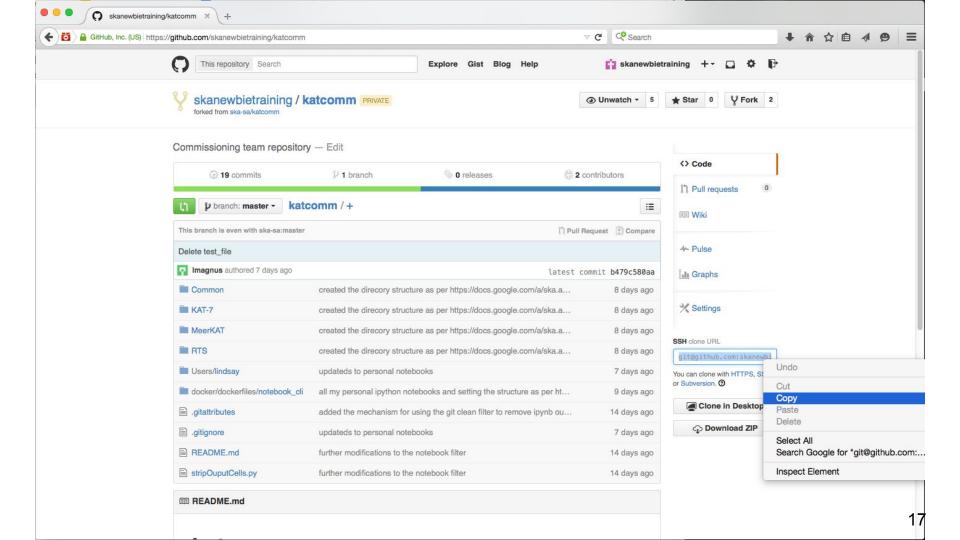






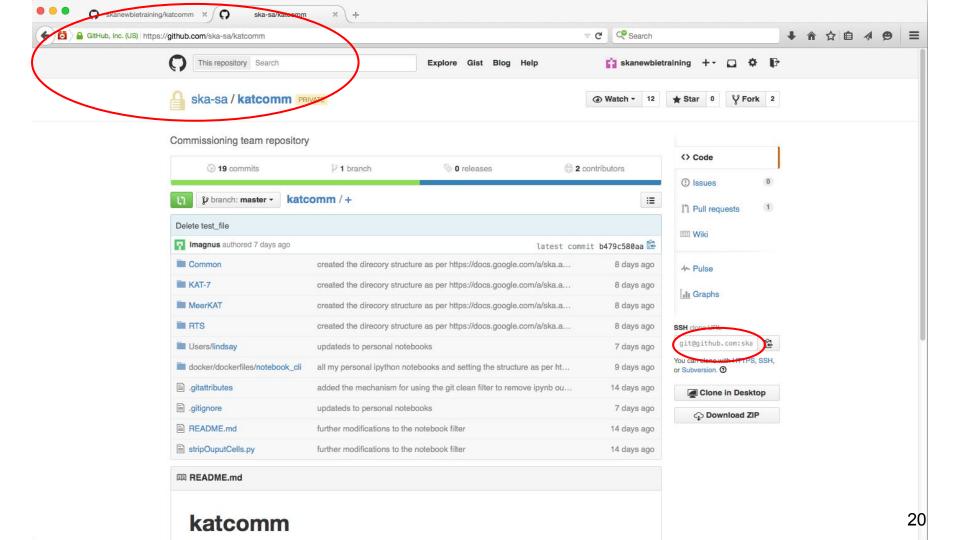
#### Cloning a repository





```
2. bash
[ruby@McRubyV2-12:19:26]-#1 ~/Projects
> cd GitHubTraining/
[ruby@McRubyV2-12:19:30]-#1 ~/Projects/GitHubTraining
> git clone git@github.com:skanewbietraining/katcomm.git
Cloning into 'katcomm'...
Warning: Permanently added the RSA host key
Warning: untrusted X11 forwarding setup failed: xauth key data not generated
X11 forwarding request failed on channel 0
remote: Counting objects: 295, done.
remote: Total 295 (delta 0), reused 0 (delta 0), pack-reused 295
Receiving objects: 100% (295/295), 283.58 KiB | 285.00 KiB/s, done.
Resolving deltas: 100% (115/115), done.
Checking connectivity... done.
[ruby@McRubyV2-12:20:36]-#1 ~/Projects/GitHubTraining
> ls
                  katcomm/
[ruby@McRubyV2-12:20:55]-#1 ~/Projects/GitHubTraining
> ls katcomm/
                                                           KAT-7/
                                                                               README.md
                                                                                                                       stripOuputCells.py*
                    .git/
                                        .gitignore
                                                                                                   Users/
                    .gitattributes
                                       Common/
                                                           MeerKAT/
                                                                               RTS/
                                                                                                   docker/
[ruby@McRubyV2-12:20:58]-#1 ~/Projects/GitHubTraining
```

# Syncing a repositories



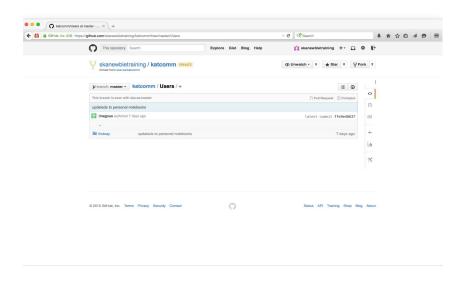
```
. .
                                                                     2. bash
[ruby@McRubyV2-14:41:27]-#1 ~/Projects/GitHubTraining
> ls
                 katcomm/
[ruby@McRubyV2-14:41:29]-#1 ~/Projects/GitHubTraining
> cd katcomm/
[ruby@McRubyV2-14:41:31]-#1 ~/Projects/GitHubTraining/katcomm
                   .git/
                                       .gitignore
                                                                               README.md
                                                                                                                        stripOuputCells.py*
                                                                                                    Users/
                   .gitattributes
                                       Common/
                                                           MeerKAT/
                                                                                                    docker/
[ruby@McRubyV2-14:41:32]-#1 ~/Projects/GitHubTraining/katcomm
> git remote -v
origin git@github.com:skanewbietraining/katcomm.git (fetch)
origin git@github.com:skanewbietraining/katcomm.git (push)
[ruby@McRubyV2-14:41:37]-#1 ~/Projects/GitHubTraining/katcomm
> git remote add upstream git@github.com:ska-sa/katcomm.git
[ruby@McRubyV2-14:42:25]-#1 ~/Projects/GitHubTraining/katcomm
> git remote -v
origin git@github.com:skanewbietraining/katcomm.git (fetch)
origin git@github.com:skanewbietraining/katcomm.git (push)
               git@github.com:ska-sa/katcomm.git (fetch)
upstream
upstream
               git@github.com:ska-sa/katcomm.git (push)
[ruby@McRubyV2-14:42:33]-#1 ~/Projects/GitHubTraining/katcomm
> git pull upstream master
Warning: Permanently added the RSA host key
Warning: untrusted X11 forwarding setup failed: xauth key data not generated
X11 forwarding request failed on channel 0
From github.com:ska-sa/katcomm
* branch
                     master
                               -> FETCH_HEAD
* [new branch]
                               -> upstream/master
                     master
Already up-to-date.
[ruby@McRubyV2-14:59:33]-#1 ~/Projects/GitHubTraining/katcomm
```

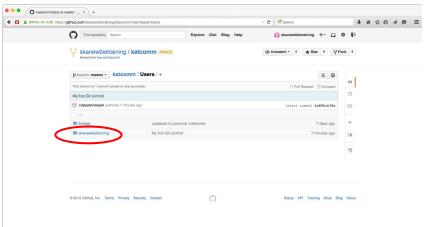
#### Adding personal directory to Users

```
[ruby@McRubyV2-18:06-31]-#1 ~/Projects/gitScience/katcomm/Users
> mkdir ruby
[ruby@McRubyV2-18:06:35]-#1 ~/Projects/gitScience/katcomm/Users
> cd ruby/
[ruby@McRubyV2-18:06:37]-#1 ~/Projects/gitScience/katcomm/Users/ruby
> echo 'Commissioning development files' > README
[ruby@McRubyV2-18:06:55]-#1 ~/Projects/gitScience/katcomm/Users/ruby
> git status
On branch master
Your branch is up-to-date with 'origin/master'.
Untracked files:
  (use "git add <file>..." to include in what will be committed)
nothing added to commit but untracked files present (use "git add" to track)
[ruby@McRubyV2-18:07:15]-#1 ~/Projects/gitScience/katcomm/Users/ruby
> git add .
[ruby@McRubyV2-18:07:22]-#1 ~/Projects/gitScience/katcomm/Users/ruby
> git status
On branch master
Your branch is up-to-date with 'origin/master'.
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)
        new file: README
[ruby@McRubyV2-18:07:25]-#1 ~/Projects/gitScience/katcomm/Users/ruby
> git ci -m "Added ruby as user to katcomm"
 [master ba7a707] Added ruby as user to katcomm
 1 file changed, 1 insertion(+)
 create mode 100644 Users/ruby/README
[ruby@McRubyV2-18:07:37]-#1 ~/Projects/gitScience/katcomm/Users/ruby
> git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)
nothing to commit, working directory clean
```

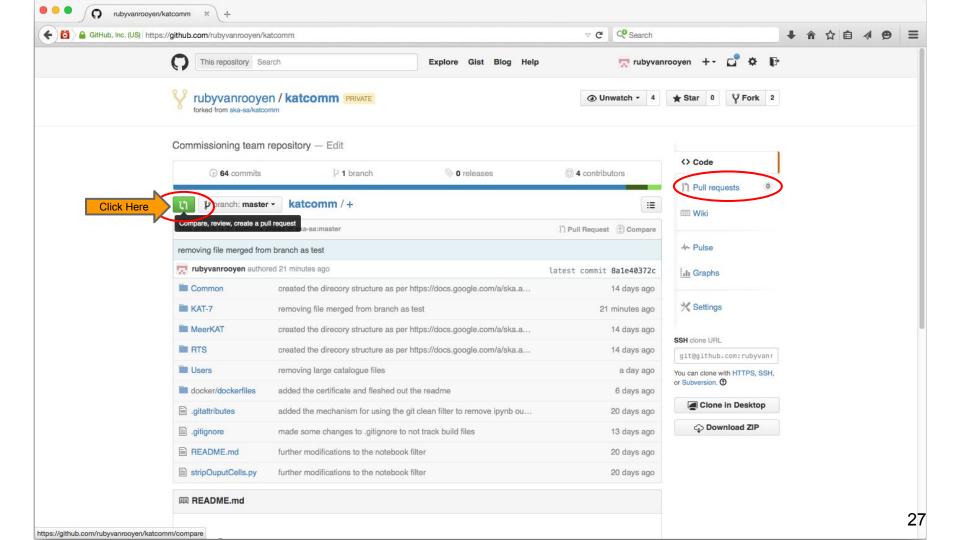
2. less

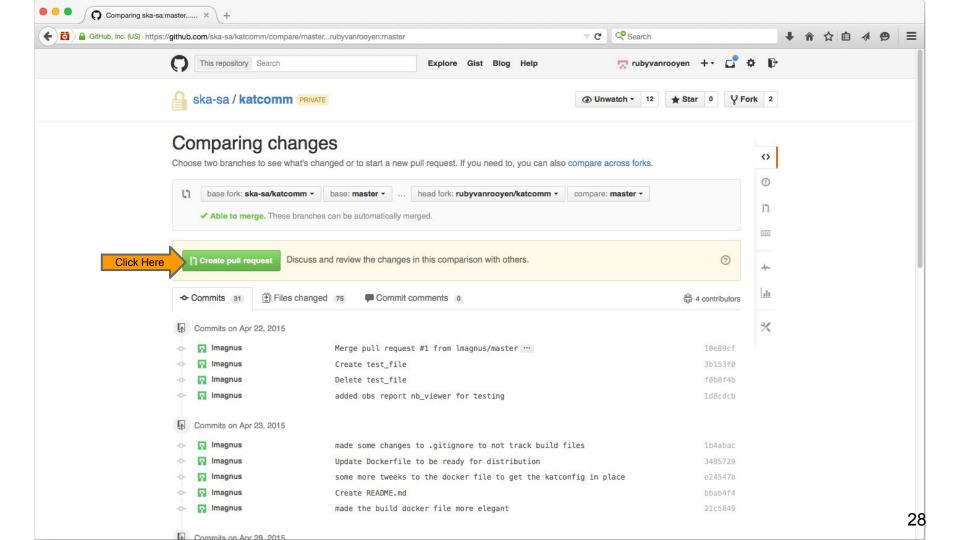
. . [ruby@McRubyV2-15:31:18]-#1 ~/Projects/GitHubTraining/katcomm/Users > git pull Warning: untrusted X11 forwarding setup failed: xauth key data not generated X11 forwarding request failed on channel 0 Already up-to-date. [ruby@McRubyV2-15:31:25]-#1 ~/Projects/GitHubTraining/katcomm/Users > git push Warning: untrusted X11 forwarding setup failed: xauth key data not generated X11 forwarding request failed on channel 0 Counting objects: 7, done. Delta compression using up to 8 threads. Compressing objects: 100% (3/3), done. Writing objects: 100% (5/5), 425 bytes | 0 bytes/s, done. Total 5 (delta 1), reused 0 (delta 0) To git@github.com:skanewbietraining/katcomm.git b479c58..4e095cb master -> master [ruby@McRubyV2-15:32:26]-#1 ~/Projects/GitHubTraining/katcomm/Users > git log commit 4e095cb78e1d3180030c8c63b1bbd60c33d53585 Author: Ruby van Rooyen Date: Wed Apr 29 15:25:56 2015 +0200 My first Git commit commit b479c580aaa47ae8327bf61b1760f873688a2b5c Author: lmagnus Date: Wed Apr 22 11:08:18 2015 +0200 Delete test\_file commit 3acb36bc622bfbd183203021e2470a25b8d3faf2 Author: lmagnus Date: Wed Apr 22 10:11:32 2015 +0200 Create test\_file

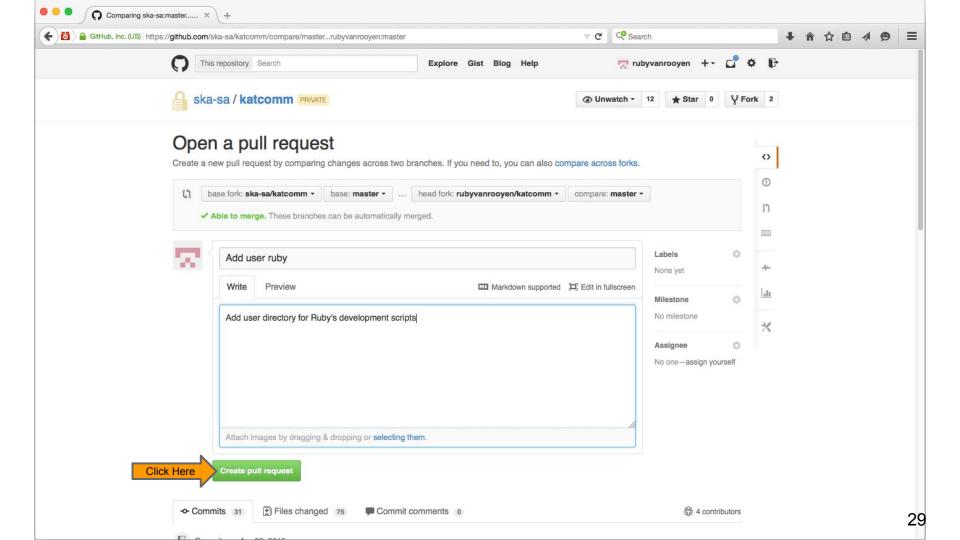


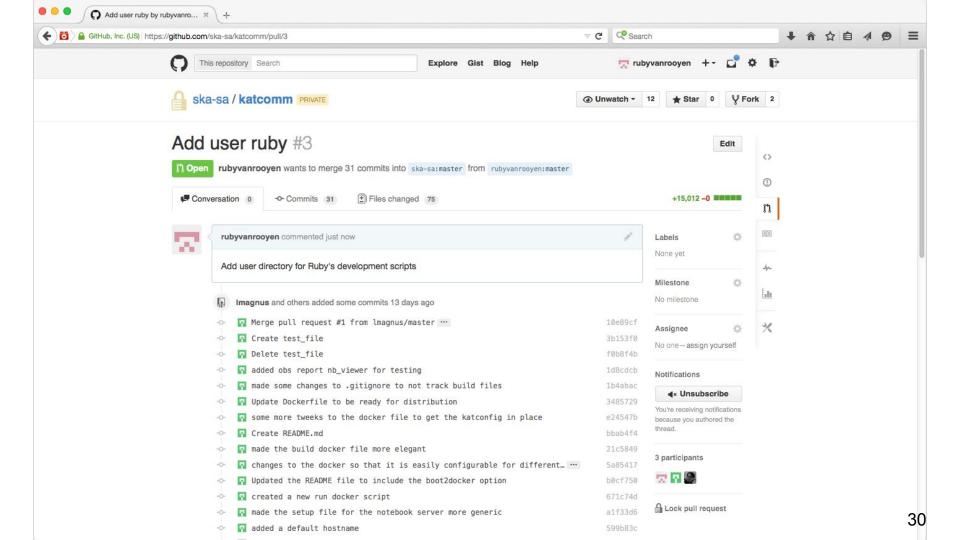


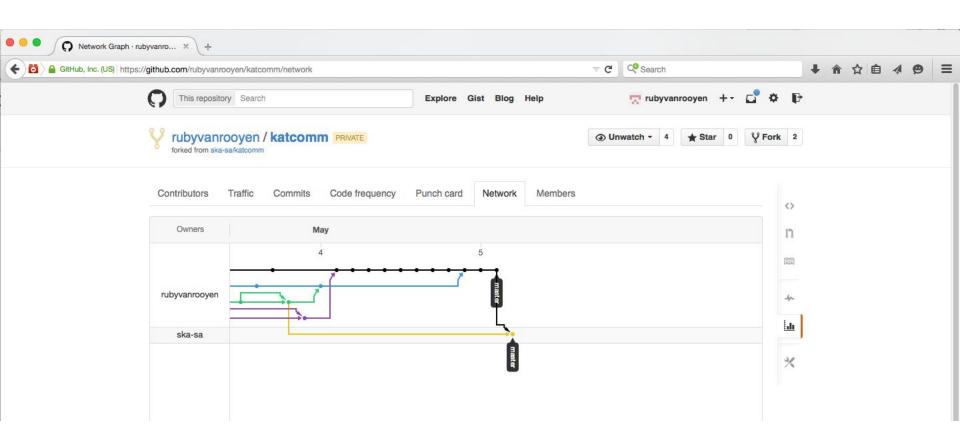
#### Creating a Pull Request











#### **Syncing Your Fork**

```
[ruby@McRubyV2-11:15:31]-#1 ~/Projects/gitScience/katcomm
 git branch -v -a
                         8ale403 removing file merged from branch as test
* master
  remotes/origin/HEAD -> origin/master
  remotes/origin/master 8ale403 removing file merged from branch as test
  remotes/upstream/master af21c75 Merge pull request #2 from lmagnus/master
[ruby@McRubyV2-11:15:38]-#1 ~/Projects/gitScience/katcomm
> git pull upstream master
Warning: untrusted X11 forwarding setup failed: xauth key data not generated
X11 forwarding request failed on channel 0
remote: Counting objects: 1, done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (1/1), done.
From github.com:ska-sa/katcomm
 * branch
                    master -> FETCH_HEAD
  af21c75..51af4f1 master -> upstream/master
Updating 8ale403..5laf4fl
Fast-forward
[ruby@McRubyV2-11:39:31]-#1 ~/Projects/gitScience/katcomm
> git push origin master
Warning: untrusted X11 forwarding setup failed: xauth key data not generated
X11 forwarding request failed on channel 0
Counting objects: 1, done.
Writing objects: 100% (1/1), 248 bytes | 0 bytes/s, done.
Total 1 (delta 0), reused 0 (delta 0)
To git@github.com:rubyvanrooyen/katcomm.git
  8ale403..5laf4fl master -> master
```

