Git入门

一、下载安装Git

- 1.下载地址: https://git-scm.com/, 可将链接复制到迅雷快速下载完毕。
- 2.安装git,参考 https://blog.csdn.net/qq_32786873/article/details/80570783

二、配置Git

1. 查看版本并设置全局变量"名字"、"邮箱"

```
git --version 查看git版本
git config --global user.name "weiruizeng"
git config --global user.email "**@qq.com"
```

2.修改启动路径,修改Git Bash.exe启动程序的"目标"及"起始位置",重启Git Bash.exe



MINGW64:/f/program/weiruizeng/learngit

```
传小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng
$ pwd
/f/program/weiruizeng
```

- 3.配置版本库
- (1) 新建learngit文件夹,配置init

```
蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng
$ mkdir learngit
蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng
$ cd learngit/
蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit
$ git init
Initialized empty Git repository in F:/program/weiruizeng/learngit/.git/
```

(2) 在learngit文件夹中测试提交

主要命令:添加到仓库 git add readme.txt

进一步提交和诠释说明 git commit -m "wrote a readme file",双引号内是自己编制的说明

```
等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ 1s readme.txt 等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git add readme.txt 等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git commit -m "wrote a readme file" [master (root-commit) 21a942d] wrote a readme file 1 file changed, 2 insertions(+) create mode 100644 readme.txt
```

提交多个文件:各自添加到仓库后,一起诠释说明

```
等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git add a.txt

蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git add b.txt

蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git add c.txt

蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git commit ¬m "wrote 3 love letters" [master ded6aa0] wrote 3 love letters 3 files changed, 7 insertions(+) create mode 100644 a.txt create mode 100644 b.txt create mode 100644 c.txt
```

提交文件夹:不能提交空目录,需要里面有文件(至少是空文件)

```
等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) 家 cd master/
等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit/master (master) 家 vi empty. txt

等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit/master (master) 家 ls empty. txt

等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit/master (master) 家 cd ...

等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) 家 git add master/

等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) 家 git commit -m "commit a dir but both empty" l file changed, 0 insertions(+), 0 deletions(-) create mode 100644 master/empty. txt
```

三、版本查看及管理

1.查看文件git状态 git status

```
將小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master)
$ git status
On branch master
Changes not staged for commit:
   (use "git add <file>..." to update what will be committed)
   (use "git restore <file>..." to discard changes in working directory)
        modified: readme.txt

no changes added to commit (use "git add" and/or "git commit -a")
```

2.查看文件内部哪些部分进行了修改(绿色和红色) git diff readme.txt

```
等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master)
$ git diff readme.txt
diff --git a/readme.txt b/readme.txt
index d8036c1..755bd76 100644
--- a/readme.txt
+++ b/readme.txt
@@ -1,2 +1,3 @@
Git is a version control system.
--Git is free software.
\ No newline at end of file
+Git is free software.
+Hello World!
```

3.add+commit再次提交到仓库,并在commit上说明修改,查看状态已经正常

```
蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git add readme.txt
蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git commit -m "modify readme.txt" [master f65c3be] modify readme.txt 1 file changed, 2 insertions(+), 1 deletion(-) 蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git status On branch master nothing to commit, working tree clean
```

4.查看历史修改信息 git log

```
等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master)
$ git log
commit f65c3be582808cf6a0cclbca2f51f9658f49b750 (HEAD -> master)
Author: weiruizeng <18122152702@189.cn>
Date: Sun Apr 5 10:48:03 2020 +0800

modify readme.txt

commit ded6aa028c0c8884b6410d00d8c06e2ba7c6f7fe
Author: weiruizeng <18122152702@189.cn>
Date: Sun Apr 5 10:40:20 2020 +0800

wrote 3 love letters

commit 71b1f37d2e95led74b2f994fbb16251f4ab21bc1
Author: weiruizeng <18122152702@189.cn>
Date: Sun Apr 5 10:14:02 2020 +0800

commit a dir but both empty

commit 21a942d98941fff3846295dbdc993e1d44966b92
Author: weiruizeng <18122152702@189.cn>
Date: Sun Apr 5 10:11:33 2020 +0800

wrote a readme file
```

5.简略版版本查看 git log --pretty=oneline

```
等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git log --pretty=oneline f65c3be582808cf6a0cclbca2f51f9658f49b750 (HEAD -> master) modify readme.txt ded6aa02sc0c8884b6410d00d8c06e2ba7c6f7fe wrote 3 love letters 71b1f37d2e95led74b2f994fbb16251f4ab21bcl commit a dir but both empty 21a942d98941fff3846295dbdc993eld44966b92 wrote a readme file
```

6.回退到上个版本: git reset HEAD^

回退到某个版本(前几位编码): git reset --hard 71b1f3

若回退到前面的版本,后续的版本号可用 git reflog 查看

7. 小结

仓库修改文件时,忘记add、commit,可通过

git status: 查看当前git仓库的状态

git diff file (你修改文件的名字): 查看修改前后的对比信息

git log: 以又长又详细的方式展现出操作记录

git log --pretty=oneline: 以单行打印的简略信息展现出操作记录

git reflog: 以快速简约的方式展现出历史操作记录,这条方法推荐使用

回退版本

git reset --hard HEAD^: 一个个代表一次指针移动,这条命令是回退到上个版本 git reset --hard HEAD^^: 回退到上上个版本

git reset --hard b4sdsf: 回到指定的版本,可以回退也可以穿越,版本号会自动补全,不用全输入

四、撤销修改和删除文件

1.修改readme.txt后,未经过add和commit环节,想撤销修改,输入 git checkout -- readme.txt

```
将小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ vim readme.txt

将小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git status
On branch master
Changes not staged for commit:
    (use "git add \{file\}..." to update what will be committed)
    (use "git restore \{file\}..." to discard changes in working directory)
    modified: readme.txt

no changes added to commit (use "git add" and/or "git commit -a")

将小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master)
$ git checkout -- readme.txt

将小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master)
$ cat readme.txt
Git is a version control system.
Git is free software.
Hello World!
```

2.单纯的rm文件并不能删除,需要采用 git rm only.txt 再加上 git commit -m "**" 才可以完成 删除

```
等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ rm only.txt

将小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git status On branch master Changes not staged for commit: (use "git add/rm <file>..." to update what will be committed) (use "git restore <file>..." to discard changes in working directory) deleted: only.txt

no changes added to commit (use "git add" and/or "git commit -a") 

蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git checkout — only.txt

蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ 1s a.txt b.txt c.txt master/ only.txt readme.txt

蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git rm only.txt

邓小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git commit —m "rm only txt" [master 1f3f869] rm only txt
1 file changed, 1 deletion(-) delete mode 100644 only.txt

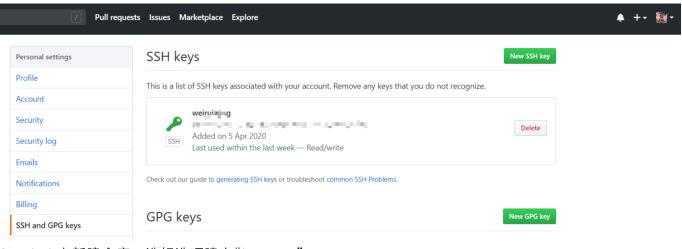
蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master) $ git status On branch master nothing to commit, working tree clean
```

如果确实要删除,那么直接rm + git rm + git commit即可,如果后悔了,想让它回来,版本回退即可。

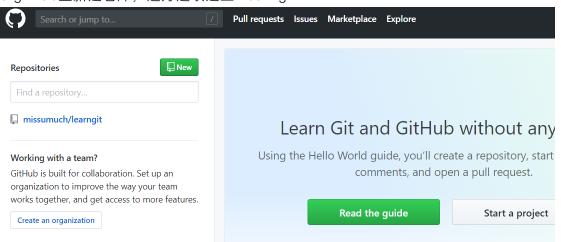
五、Github初次使用

1.终端生成ssh, 输入命令 ssh-keygen -t rsa -C "18122152702@189.cn", 一直回车完成, 生成 id rsa.pub文件

2.登陆注册的github账号,在个人主页的"Settings"点击"SSH and GPG keys",进一步点击"New SSH key",将is_rsa.pub中的信息复制进去,点击"Add SSH key"生成。

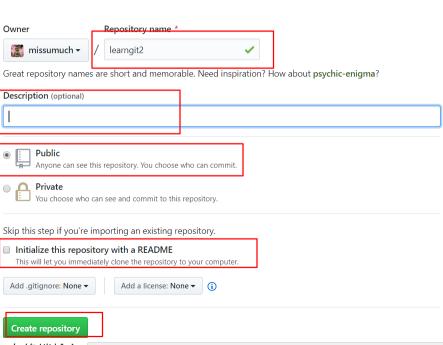


3.github上新建仓库,选好选项建立"learngit"



Create a new repository

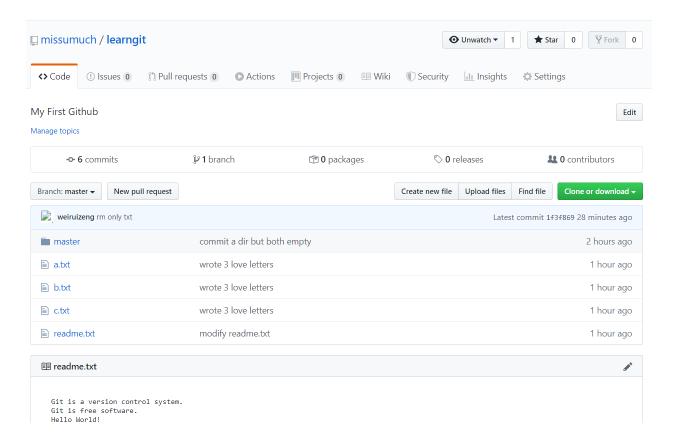
A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.



4.在终端输入 git remote add origin git@github.com:/missumuch/learngit.git git push -u origin master 完成同步,其中

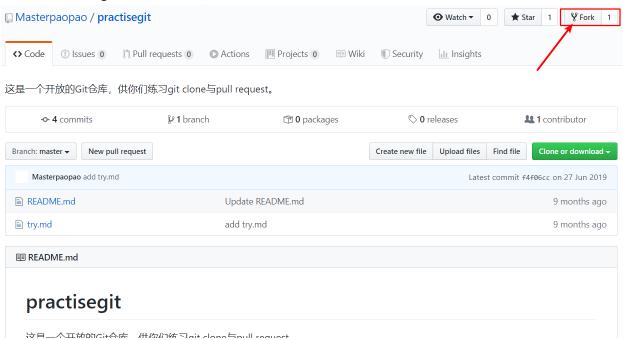
git@github.com:/missumuch/learngit.git为建立仓库时显示的内容

5.同步之后,在github上显示成功

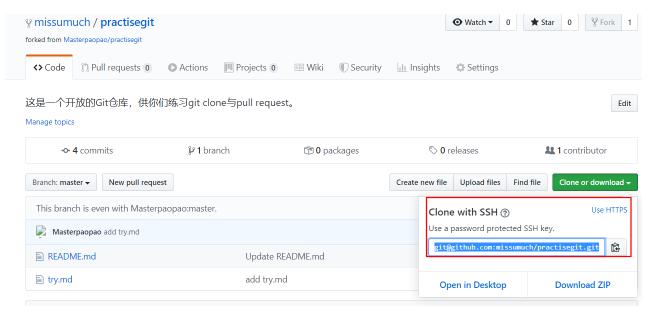


六、Github上的clone及pull request

1.在老师提供的github练习库上,先fork到自己的仓库中



2.生成自己仓库的ssh地址, "git@github.com:missumuch/practisegit.git"



3.在终端进行git clone

终端输入 git clone git@github.com:missumuch/practisegit.git

```
等小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master)
$ git clone git@github.com:missumuch/practisegit.git
Cloning into 'practisegit'...
Warning: Permanently added the RSA host key for IP address '13.250.177.223' to the list of known hos
ts.
remote: Enumerating objects: 12, done.
remote: Counting objects: 100% (12/12), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 12 (delta 2), reused 3 (delta 0), pack-reused 0
Receiving objects: 100% (12/12), done.
Resolving deltas: 100% (2/2), done.

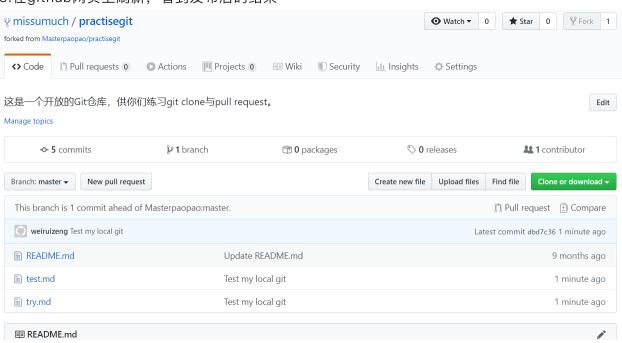
常小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master)
$ 1s
a.txt b.txt c.txt master/ practisegit/ readme.txt
```

4.进行本地修改

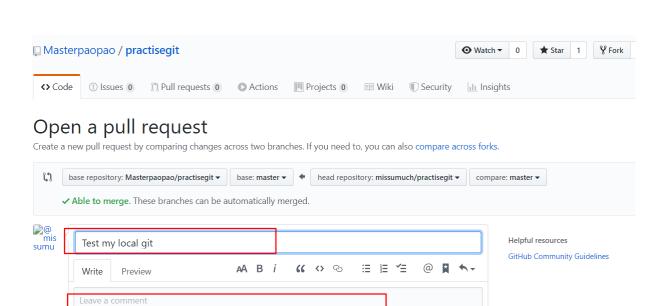
添加了"test.md"文件,修改了"try.md"文件,通过git add+commit命令更新了仓库,git push更新到github上(git push origin master)

```
txt b.txt c.txt master/ practisegit/ readme.txt
   小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit (master)
  txt c.txt master/ practisegit/ readme.txt
README.md test.md try.md
  vim test.md
   小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit/practisegit (master)
  it is a version control system.
it is free software.
Hello World!
    小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit/practisegit (master)
  git add test.md
  git add try.md
 陈小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruizeng/learngit/practisegit (master)
g git commit -m "Test my local git"
[master dbd7c36] Test my local git
2 files changed, 6 insertions(+)
create mode 100644 test.md
 git push origin master
Varning: Permanently added the RSA host key for IP address '13.229.188.59' to the list of known host
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done
Counting objects: 100% (6/6), done.
Delta compression using up to 12 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 485 bytes | 485.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
   github.com:missumuch/practisegit.git
f4f06cc..dbd7c36 master -> master
```

5.在github网页上刷新,看到发布后的结果



6.通知原作者,点击"New pull request"按钮,填写好改动内容



Attach files by dragging & dropping, selecting or pasting them.

Μŧ