

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 "weiruibeng"
```

```
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/weiruibeng/learnGit
```

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng
$ pwd
/f/program/weiruibeng
```

- 3.配置版本库

(1) 新建learnGit文件夹，配置init

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng
$ mkdir learnGit

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng
$ cd learnGit/

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnGit
$ git init
Initialized empty Git repository in F:/program/weiruibeng/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

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnGit (master)
$ ls
readme.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnGit (master)
$ git add readme.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/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

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (master)
$ git add a.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (master)
$ git add b.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (master)
$ git add c.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (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）

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (master)
$ cd master/

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit/master (master)
$ vi empty.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit/master (master)
$ ls
empty.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit/master (master)
$ cd ..

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (master)
$ git add master/

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (master)
$ git commit -m "commit a dir but both empty"
[master 71b1f37] commit a dir but both empty
1 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

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (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

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (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-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (master)
$ git add readme.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (master)
$ git commit -m "modify readme.txt"
[master f65c3be] modify readme.txt
1 file changed, 2 insertions(+), 1 deletion(-)

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnngit (master)
$ git status
On branch master
nothing to commit, working tree clean
```

4.查看历史修改信息

git log

```

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnGit (master)
$ git log
commit f65c3be582808cf6a0cc1bca2f51f9658f49b750 (HEAD -> master)
Author: weiruibeng <18122152702@189.cn>
Date:   Sun Apr 5 10:48:03 2020 +0800

    modify readme.txt

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

    wrote 3 love letters

commit 71b1f37d2e951ed74b2f994fbb16251f4ab21bc1
Author: weiruibeng <18122152702@189.cn>
Date:   Sun Apr 5 10:14:02 2020 +0800

    commit a dir but both empty

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

    wrote a readme file

```

5. 简略版本查看 `git log --pretty=oneline`

```

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnGit (master)
$ git log --pretty=oneline
f65c3be582808cf6a0cc1bca2f51f9658f49b750 (HEAD -> master) modify readme.txt
ded6aa028c0c8884b6410d00d8c06e2ba7c6f7fe wrote 3 love letters
71b1f37d2e951ed74b2f994fbb16251f4ab21bc1 commit a dir but both empty
21a942d98941fff3846295dbdc993e1d44966b92 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

```

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnGit (master)
$ git reset --hard 71b1f3
HEAD is now at 71b1f3 commit a dir but both empty

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnGit (master)
$ git reflog
71b1f37 (HEAD -> master) HEAD@{0}: reset: moving to 71b1f3
ded6aa0 HEAD@{1}: reset: moving to HEAD
f65c3be HEAD@{2}: commit: modify readme.txt
ded6aa0 HEAD@{3}: commit: wrote 3 love letters
71b1f37 (HEAD -> master) HEAD@{4}: commit: commit a dir but both empty
21a942d HEAD@{5}: commit (initial): wrote a readme file

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnGit (master)
$ git reset --hard f65c3
HEAD is now at f65c3be modify readme.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnGit (master)
$ cat readme.txt
Git is a version control system.
Git is free software.
Hello World!

```

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^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`

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnGit (master)
$ vim readme.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/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")

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnGit (master)
$ git checkout -- readme.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/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

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnGit (master)
$ rm only.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/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-R7ID0PIC MINGW64 /f/program/weiruiheng/learnGit (master)
$ git checkout -- only.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnGit (master)
$ ls
a.txt  b.txt  c.txt  master/  only.txt  readme.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/learnGit (master)
$ git rm only.txt
rm 'only.txt'

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruiheng/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-R7ID0PIC MINGW64 /f/program/weiruiheng/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

```

蒋小妹@LAPTOP-R7IDOPIC MINGW64 /f/program/weiruibeng/learnig (master)
$ ssh-keygen -t rsa -C "18122152702@189.cn"
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/蒋小妹/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/蒋小妹/.ssh/id_rsa
Your public key has been saved in /c/Users/蒋小妹/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:G5x4ZWA0y8+SUGfkhwt4qL4uaOPaEeDMXvCWM4gTd8 18122152702@189.cn
The key's randomart image is:
+---[RSA 3072]-----+
|
| o .
| . + X .
| o ... = + o
| ooo . oE0 +
| += . * S
| . = o = . + o
| = o .
| o + .
| B + * o
+---[SHA256]-----+

```

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。

The screenshot shows the GitHub 'SSH keys' settings page. On the left is a sidebar with 'Personal settings' selected, containing links for Profile, Account, Security, Security log, Emails, Notifications, Billing, and SSH and GPG keys. The main content area is titled 'SSH keys' with a 'New SSH key' button. Below the title, it says 'This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.' A single SSH key is listed for the user 'weiruibeng', added on 5 Apr 2020, with a 'Delete' button. Below the key list, there is a link to a guide on generating SSH keys. At the bottom, there is a section for 'GPG keys' with a 'New GPG key' button.


3. github上新建仓库，选好选项建立“learnig”

The screenshot shows the GitHub 'New repository' page. On the left, there is a 'Repositories' section with a 'New' button and a search bar. Below the search bar, there is a section for 'Working with a team?' with a 'Create an organization' button. The main content area features a large blue box with the text 'Learn Git and GitHub without any' and a button to 'Read the guide'. Below this, there is a button to 'Start a project'.

Create a new repository

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

[Import a repository.](#)

Owner:  missumuch

Repository name: ✓

Great repository names are short and memorable. Need inspiration? How about **psychic-enigma**?

Description (optional):

☒ **Public**
Anyone can see this repository. You choose who can commit.

☐ **Private**
You choose who can see and commit to this repository.

Skip this step if you're importing an existing repository.

☐ **Initialize this repository with a README**
This will let you immediately clone the repository to your computer.

Add .gitignore: **None** | Add a license: **None** ⓘ

Create 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

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruizeng/learngit (master)
$ git remote add origin git@github.com:missumuch/learngit.git

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruizeng/learngit (master)
$ git push -u origin master
The authenticity of host 'github.com (52.74.223.119)' can't be established.
RSA key fingerprint is SHA256:nThbg6kXUpJWG17E1IGOCspRomTxdCARLviKw6E5SY8.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'github.com,52.74.223.119' (RSA) to the list of known hosts.
Enumerating objects: 17, done.
Counting objects: 100% (17/17), done.
Delta compression using up to 12 threads
Compressing objects: 100% (12/12), done.
Writing objects: 100% (17/17), 1.39 KiB | 474.00 KiB/s, done.
Total 17 (delta 3), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (3/3), done.
To github.com:missumuch/learngit.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
```

5.同步之后，在github上显示成功

missumuch / leargit

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Actions Projects 0 Wiki Security Insights Settings

My First Github Edit

Manage topics

6 commits 1 branch 0 packages 0 releases 0 contributors

Branch: master New pull request Create new file Upload files Find file Clone or download

weiruizeng rm only txt Latest commit 1f3f869 28 minutes ago

master	commit a dir but both empty	2 hours ago
a.txt	wrote 3 love letters	1 hour ago
b.txt	wrote 3 love letters	1 hour ago
c.txt	wrote 3 love letters	1 hour ago
readme.txt	modify readme.txt	1 hour ago

readme.txt

```
Git is a version control system.
Git is free software.
Hello World!
```

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

Masterpaopao / practisegit

Watch 0 Star 1 Fork 1

Code Issues 0 Pull requests 0 Actions Projects 0 Wiki Security Insights

这是一个开放的Git仓库，供你们练习git clone与pull request。

4 commits 1 branch 0 packages 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

Masterpaopao add try.md Latest commit f4f06cc on 27 Jun 2019

README.md	Update README.md	9 months ago
try.md	add try.md	9 months ago

README.md

practisegit

这是一个开放的Git仓库，供你们练习git clone与pull request

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

missumuch / practisegit
forked from Masterpaopao/practisegit

Watch 0 Star 0 Fork 1

Code Pull requests 0 Actions Projects 0 Wiki Security Insights Settings

这是一个开放的Git仓库，供你们练习git clone与pull request. Edit

Manage topics

4 commits 1 branch 0 packages 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

This branch is even with Masterpaopao:master.

Masterpaopao add try.md

README.md Update README.md

try.md add try.md

Clone with SSH Use HTTPS

Use a password protected SSH key.

git@github.com:missumuch/practisegit.git

Open in Desktop Download ZIP

3.在终端进行git clone

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

```
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruizeng/learn git (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 hosts.
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.
蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruizeng/learn git (master)
$ ls
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`)


```

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig (master)
$ ls
a.txt b.txt c.txt master/ practisegit/ readme.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig (master)
$ ls
b.txt c.txt master/ practisegit/ readme.txt

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig (master)
$ cd practisegit/

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig/practisegit (master)
$ ls
README.md test.md try.md

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig/practisegit (master)
$ vim test.md

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig/practisegit (master)
$ cat test.md
Git is a version control system.
Git is free software.
Hello World!

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig/practisegit (master)
$ git add test.md


蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig/practisegit (master)
$ git add try.md

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig/practisegit (master)
$ git commit -m "Test my local git"
[master dbd7c36] Test my local git
2 files changed, 6 insertions(+)
create mode 100644 test.md

蒋小妹@LAPTOP-R7ID0PIC MINGW64 /f/program/weiruibeng/learnig/practisegit (master)
$ git push origin master
Warning: Permanently added the RSA host key for IP address '13.229.188.59' to the list of known hosts.
Enumerating objects: 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
To 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


[missumuch / practisegit](#)

👁 Watch 0

★ Star 0

🍴 Fork 1

forked from Masterpaopao/practisegit

<> Code
Pull requests 0
Actions
Projects 0
Wiki
Security
Insights
Settings

这是一个开放的Git仓库，供你们练习git clone与pull request.

[Manage topics](#)

📄 5 commits

🌿 1 branch





📦 0 packages



📅 0 releases

👤 1 contributor

Branch: master ▼
New pull request
Create new file
Upload files
Find file
Clone or download ▼

This branch is 1 commit ahead of Masterpaopao:master. [Pull request](#) [Compare](#)

 weiruibeng Test my local git	Latest commit dbd7c36 1 minute ago
 README.md	Update README.md 9 months ago
 test.md	Test my local git 1 minute ago
 try.md	Test my local git 1 minute ago

 [README.md](#)


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

Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).



base repository: Masterpaopao/practisegit

base: master



head repository: missumuch/practisegit

compare: master

✓ **Able to merge.** These branches can be automatically merged.



Test my local git

Write

Preview

AA

B

i

“

<>

🔗

☰

☰

☰

@

📌

↶

Leave a comment

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

Helpful resources

[GitHub Community Guidelines](#)