

git操作整理

git 配置

```
git config --global user.name "yuluo"
```

```
git config --global user.email "1481556636@qq.com"
```

```
git config --global color.ui auto 启用命令行着色输出
```

git 操作

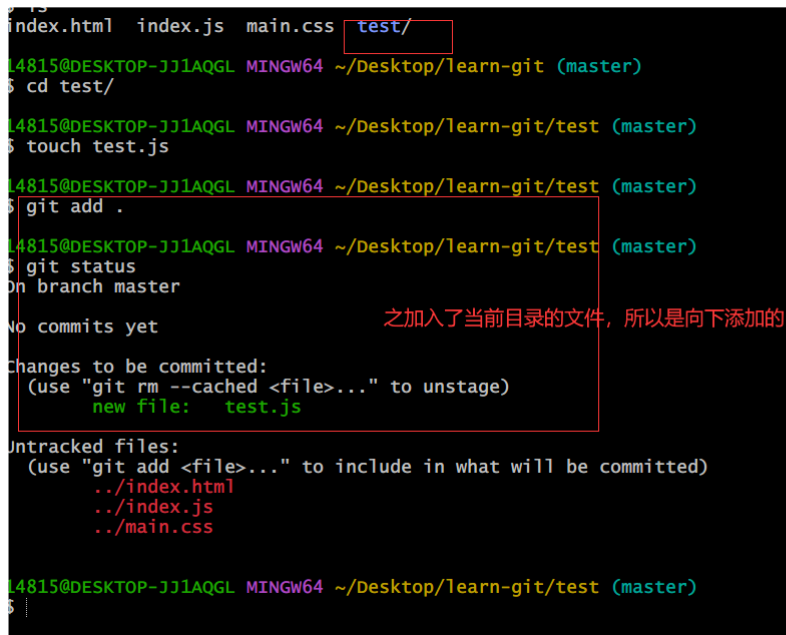
暂存区

```
git init . 初始化git仓库
```

```
git status 看仓库状态
```

```
git add index.html 把index.html 文件加入暂存区, git添加文件默认是  
从当前目录向下添加的,
```

```
如果在下级目录想加入上级目录的所有内容, 使用git add -A
```



```
index.html index.js main.css test/
14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (master)
$ cd test/
14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git/test (master)
$ touch test.js
14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git/test (master)
$ git add .
14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git/test (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   test.js

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        ../index.html
        ../index.js
        ../main.css

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git/test (master)
$
```

```
git rm --cached index.html 从暂存区撤回
```

```
git add ./* 将当前目录所有文件加入暂存区
```

```
git rm -r --cached . 将所有文件从暂存区移除
```

本地版本库

从暂存区获取文件提交到本地版本库

git log 获取此次git commit的hash值,

git show 查看和hash值对应的commit信息

```
$ git log
commit 4b95094f08c62082ae8aef42c7aeab2dbb283e33 (HEAD -> master)
Author: YuLuo <1481556636@qq.com>
Date:   Fri Jan 20 13:30:22 2023 +0800

    bootstrap project

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (master)
$ git show 4b95094f08c62082ae8aef42c7aeab2dbb283e33
commit 4b95094f08c62082ae8aef42c7aeab2dbb283e33 (HEAD -> master)
Author: YuLuo <1481556636@qq.com>
Date:   Fri Jan 20 13:30:22 2023 +0800

    bootstrap project

diff --git a/index.html b/index.html
new file mode 100644
index 0000000..e69de29
diff --git a/index.js b/index.js
new file mode 100644
index 0000000..e69de29
diff --git a/main.css b/main.css
new file mode 100644
index 0000000..e69de29
diff --git a/test/test.js b/test/test.js
new file mode 100644
index 0000000..e69de29

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (master)
```

git diff 查看修改后的文件和本地版本库文件的差异

```
14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (master)
$ vi index.js

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (master)
$ cat index.js
console.log("hello git!")

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (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:   index.js

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

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (master)
$ git diff
warning: LF will be replaced by CRLF in index.js.
The file will have its original line endings in your working directory
diff --git a/index.js b/index.js
index e69de29..27b70d5 100644
--- a/index.js
+++ b/index.js
@@ -0,0 +1 @@
+console.log("hello git!")
```

git restore index.js 放弃js的更改

git commit --amend -m "message" 修改已经提交的commit信息

```
L4815@DESKTOP-JJ1AQL MINGW64 ~/Desktop/learn-git (master)
$ git log
commit f0f6ee37559c6c8c60d0584bfb3486bd23d6c1c3 (HEAD -> master)
Author: yuluo <1481556636@qq.com>
Date:   Fri Jan 20 13:47:58 2023 +0800

    jsfsgaf

commit f2b4544aaaa561a9b0f1d183c3d67ff3d5158ccd
Author: yuluo <1481556636@qq.com>
Date:   Fri Jan 20 13:39:26 2023 +0800

    added console.log

commit 4b95094f08c62082ae8aef42c7aeab2dbb283e33
Author: YuLuo <1481556636@qq.com>
Date:   Fri Jan 20 13:30:22 2023 +0800

    bootstrap project

L4815@DESKTOP-JJ1AQL MINGW64 ~/Desktop/learn-git (master)
$ git commit --amend -m "added body{} in main.css"
[master 14f98d7] added body{} in main.css
Date: Fri Jan 20 13:47:58 2023 +0800
2 files changed, 3 insertions(+), 1 deletion(-)

L4815@DESKTOP-JJ1AQL MINGW64 ~/Desktop/learn-git (master)
$ git log
commit 14f98d704c9b51ef5de8ca9adaab1e2f6727415d (HEAD -> master)
Author: yuluo <1481556636@qq.com>
Date:   Fri Jan 20 13:47:58 2023 +0800

    added body{} in main.css

commit f2b4544aaaa561a9b0f1d183c3d67ff3d5158ccd
Author: yuluo <1481556636@qq.com>
Date:   Fri Jan 20 13:39:26 2023 +0800

    added console.log

commit 4b95094f08c62082ae8aef42c7aeab2dbb283e33
Author: YuLuo <1481556636@qq.com>
Date:   Fri Jan 20 13:30:22 2023 +0800

    bootstrap project
```

push

git branch -M main 变更主分支为master

```
git remote add origin git@github.com:yuluo-yx/test.git
```

```
git branch -M main
```

```
git push -u origin main
```

这样做需要配置ssh, 我一般使用https协议

branches

`git branch -r` 查看远程分支，在绑定了远程仓库名之后才可以看到远程分支

`git branch -a` 查看全部分支，包括本地和远程

`git branch feature-a` 分支名使用_和-命名，不使用特殊符号，创建一个feature-a分支

`git checkout feature-a` 切换到feature-a分支

`git checkout -` 切换分支

`git branch -d "name"` 删除分支

`git merge feature-a` 合并feature-a到主分支

`git checkout -b feature-xyz` 创建一个feature-xyz分支并切换过去

rebase 解决文件冲突

同时修改了同一个文件，会产生冲突，在拉取时，会自动尝试合并，失败之后文件就会像下面这样，下面的hash为另一个人修改时的commit hash值，head为自己修改的部分，====为分隔符

```
14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz)
$ git pull https://github.com/yuluo-yx/test.git feature-xyz
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 722 bytes | 80.00 KiB/s, done.
From https://github.com/yuluo-yx/test
* branch          feature-xyz -> FETCH_HEAD
Auto-merging index.html
CONFLICT (content): Merge conflict in index.html
Automatic merge failed; fix conflicts and then commit the result.

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|MERGING)
$ cat index.html
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
<<<<<<< HEAD
    <p>this a git rebase test by local machine!</p>
=====
    <p>this a git rebase test!</p>
>>>>>>> 2ffe34c7ae857c4b72aad41996e6f24a7451561b
    </body>
  </html>

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|MERGING)
$
```

此时，`git status`显示为：同时修改了文件

```

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|MERGING)
$ git status
On branch feature-xyz
You have unmerged paths.
  (fix conflicts and run "git commit")
  (use "git merge --abort" to abort the merge)

Unmerged paths:
  (use "git add <file>..." to mark resolution)
        both modified:   index.html

no changes added to commit (use "git add" and/or "git commit -a")
14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|MERGING)

```

步骤:

- 后动修改合并后的文件，之后重新commit push
- git add .
- git status
- git commit -m "resolver conflict"
- git push

变基 详细 - rebase

```
git pull -r/--rebase https://github.com/yuluo-yx/test.git
main
```

需要手动解决冲突

```

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz)
$ git pull -r https://github.com/yuluo-yx/test.git main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 718 bytes | 71.00 KiB/s, done.
From https://github.com/yuluo-yx/test
 * branch      main      -> FETCH_HEAD
dropping 03722d8753c3f108b53e5e0302065737a6e41298 utils.js with todo -- patch contents already upstream
Auto-merging index.html
CONFLICT (content): Merge conflict in index.html
error: could not apply 4d026ce... add some html
hint: Resolve all conflicts manually, mark them as resolved with
hint: "git add/rm <conflicted_files>", then run "git rebase --continue".
hint: You can instead skip this commit: run "git rebase --skip".
hint: To abort and get back to the state before "git rebase", run "git rebase --abort".
Could not apply 4d026ce... add some html

```

代码:

下面是初次提交时的更改，上面是更改之后的内容。

我们可以借助vscode或者idea等工具，或者手动去选择接受它

```

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|REBASE 2/4)
$ cat index.html
<<<<<<< HEAD
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <p>first pragraph</p>
  </body>
</html>
=====
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    </body>
</html>
>>>>>>> 4d026ce (add some html)

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|REBASE 2/4)
$ |

```

解决冲突之后:

继续运行:

git add *

git rebase --continue

执行之后, 仍然不能成功, 因为还有一个冲突没有解决!

```

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|REBASE 2/4)
$ git rebase --continue
Auto-merging index.html
CONFLICT (content): Merge conflict in index.html
error: could not apply 97895d7... added p1 another tag
hint: Resolve all conflicts manually, mark them as resolved with
hint: "git add/rm <conflicted_files>", then run "git rebase --continue".
hint: You can instead skip this commit: run "git rebase --skip".
hint: To abort and get back to the state before "git rebase", run "git rebase --abort".
Could not apply 97895d7... added p1 another tag

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|REBASE 3/4)
$ |

```

同样的方式解决之后,

```

14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|REBASE 3/4)
$ cat index.html
<<<<<<< HEAD
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <p>first pragraph</p>
  </body>
</html>
=====
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <p>this a git rebase test by local machine!</p>
  </body>
</html>
>>>>>>> 97895d7 (added p1 another tag)

```

继续执行: `git rebase --continue`

解决完所有冲突之后, `git push`

```
14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz|REBASE 4/4)
$ git rebase --continue
[detached HEAD 868d4b7] Update index.html
Author: YuLuo <yuluo08290126@gmail.com>
1 file changed, 7 insertions(+), 4 deletions(-)
Successfully rebased and updated refs/heads/feature-xyz.
```

```
14815@DESKTOP-JJ1AQGL MINGW64 ~/Desktop/learn-git (feature-xyz)
$ git push https://github.com/yuluo-yx/test.git feature-xyz
To https://github.com/yuluo-yx/test.git
! [rejected]        feature-xyz -> feature-xyz (fetch first)
error: failed to push some refs to 'https://github.com/yuluo-yx/test.git'
hint: Updates were rejected because the remote contains work that you do
hint: not have locally. This is usually caused by another repository pushing
hint: to the same ref. You may want to first integrate the remote changes
hint: (e.g., 'git pull ...') before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

这里我们修改了代码, 解决了冲突, 重新设置了基础。但是push时, 却落后了提交, 我们自己清楚, 但是远程仓库不知道我们改变了基础。

所以选择-f 强制提交