

## 远程仓库

Github 顾名思义是一个 Git 版本库的托管服务，是目前全球最大的软件仓库，拥有上百万的开发者用户，也是软件开发和寻找资源的最佳途径，Github 不仅可以托管各种 Git 版本仓库，还拥有了更美观的 Web 界面，您的代码文件可以被任何人克隆，使得开发者为开源项贡献代码变得更加容易，当然也可以付费购买私有库，这样高性价比的私有库真的是帮助到了很多团队和企业。

### SSH Key

SSH 为 Secure Shell 的缩写，SSH 为建立在应用层基础上的安全协议。SSH 是目前较可靠，专为远程登录会话和其他网络服务提供安全性的协议。利用 SSH 协议可以有效防止远程管理过程中的信息泄露问题。

由于你的本地 Git 仓库和 GitHub 仓库之间的传输是通过 SSH 加密的，所以，需要一点设置：

第 1 步：创建 SSH Key。在用户主目录下，看看有没有 .ssh 目录，如果有，再看看这个目录下有没有 id\_rsa 和 id\_rsa.pub 这两个文件，如果已经有了，可直接跳到下一步。如果没有，打开 Shell，创建 SSH Key：

```
xsdd@ubuntu:~$ sudo passwd root
[sudo] password for xsdd:
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
xsdd@ubuntu:~$ su - root
Password:
root@ubuntu:~# ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
Created directory '/root/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /root/.ssh/id_rsa.
Your public key has been saved in /root/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:dT45rOgm80xIIJC/Pt+n3z9u4XAVgnhQatSpempxwts root@ubuntu
The key's randomart image is:
+---[RSA 2048]----+
|    ..  o=.o    |
|    ..  ..=..   |
|    .. .o+..    |
|    ...+ +.    .|
|    ..S o *    .|
```

```
|      . = * . + o |
|      . @ .   + . |
|      = B.E   .. + |
|      . B = o + . + oo |
+-----[SHA256]-----+
root@ubuntu:~# eval `ssh-agent`
Agent pid 5098
root@ubuntu:~# ssh-add
Identity added: /root/.ssh/id_rsa (/root/.ssh/id_rsa)
```

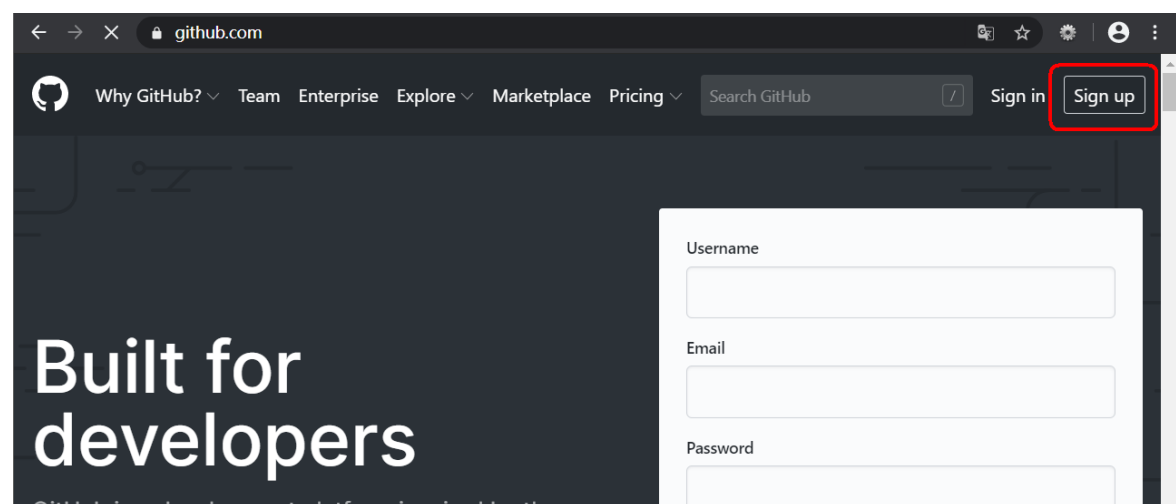
ssh-add 命令是把专用密钥添加到 ssh-agent 的高速缓存中。

ssh-agent 是一种控制用来保存公钥身份验证所使用的私钥的程序。ssh-agent 在 X 会话或登录会话之初启动，所有其他窗口或程序则以客户端程序的身份启动并加入到 ssh-agent 程序中。通过使用环境变量，可定位代理并在登录到其他使用 ssh 机器上时使用代理自动进行身份验证。不同于 ssh，ssh-agent 是个长时间持续运行的守护进程 (daemon)，设计它的唯一目的就是解密专用密钥的高速缓存。

ssh 包含的内建支持允许它同 ssh-agent 通信，允许 ssh 不必每次新连接时都提示您要密码才能获取解密的专用密钥。对于 ssh-agent，您只要使用 ssh-add 把专用密钥添加到 ssh-agent 的高速缓存中。这是个一次性过程；用过 ssh-add 之后，ssh 将从 ssh-agent 获取您的专用密钥，而不会提示要密码短语来烦您了。

(<https://blog.csdn.net/tanga842428/article/details/71964688>)

第 2 步：首先进入网站，点击注册(Sign up)：



Join GitHub

# Create your account

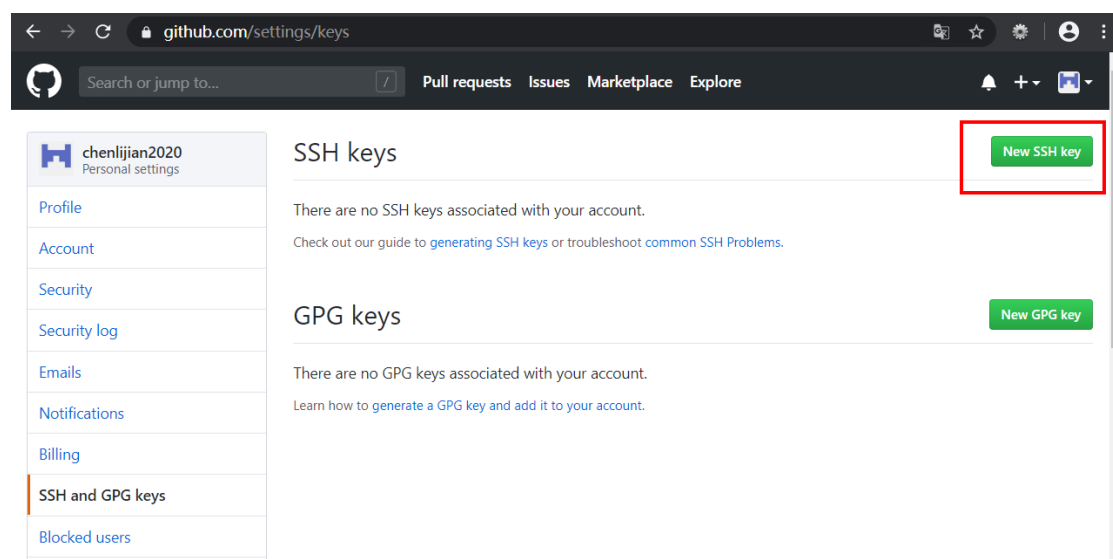
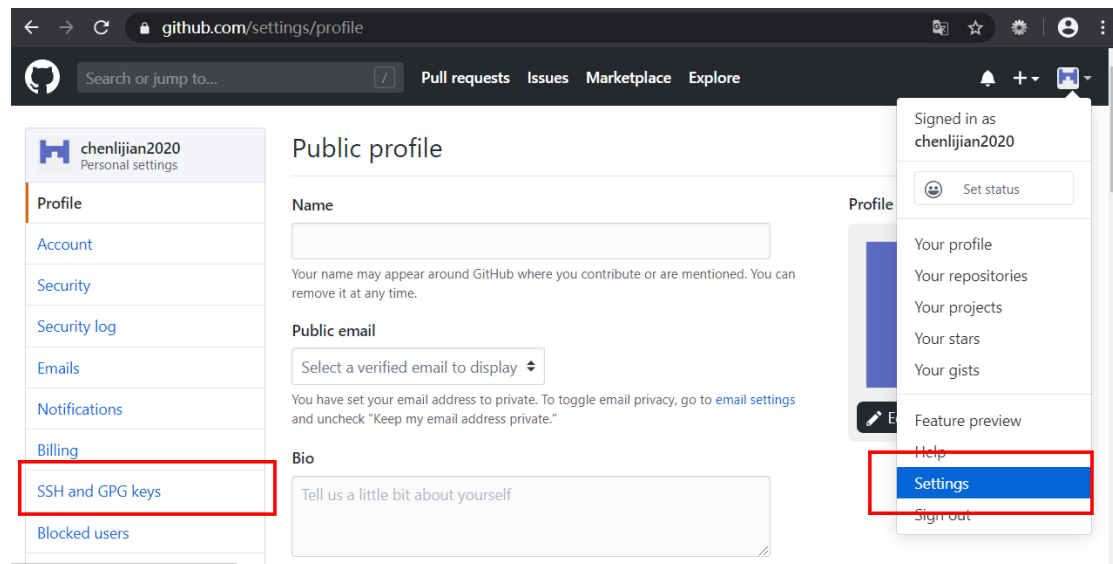
Username \*

chenlijian2020

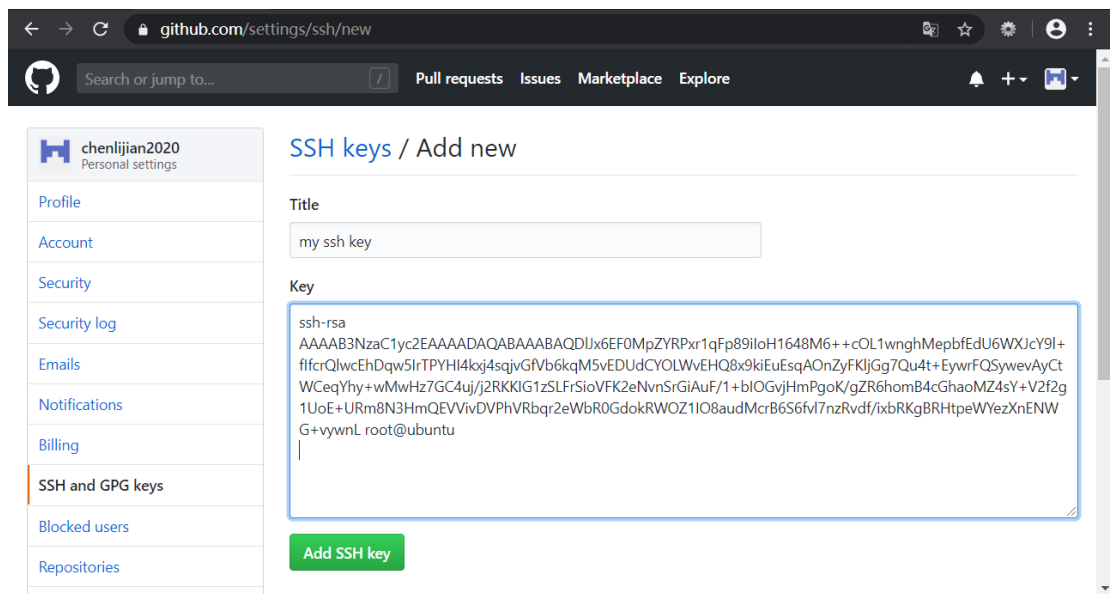
Email address \*

登陆 GitHub，打开“Account settings”，“SSH Keys”页面：

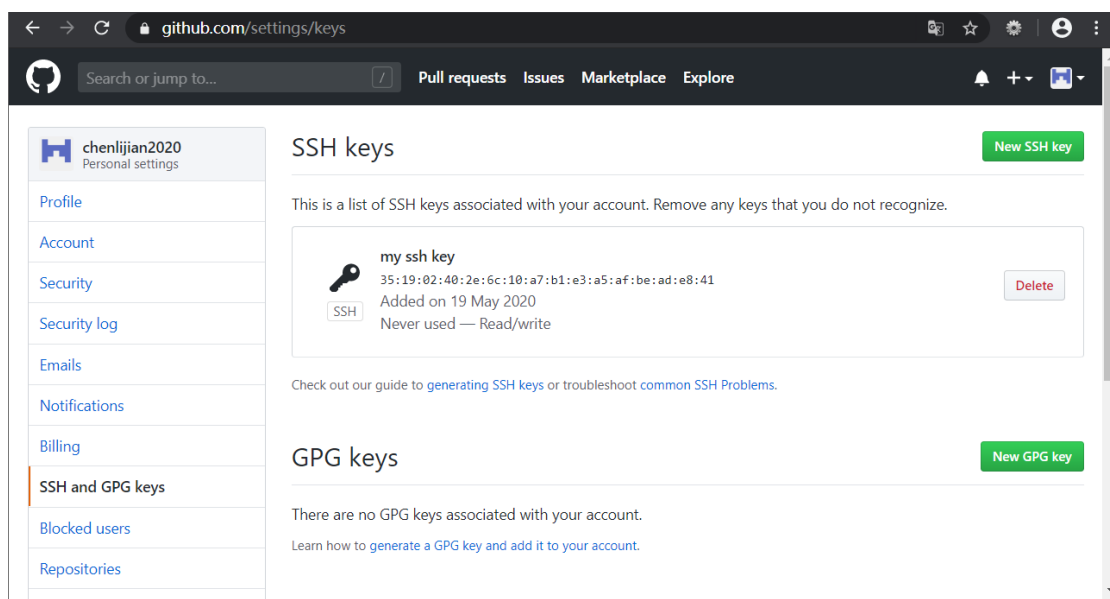
然后，点“Add SSH Key”，填上任意 Title，在 Key 文本框里粘贴 id\_rsa.pub 文件的内容：



```
root@ubuntu:~# cat .ssh/id_rsa.pub
ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAQADIIx6EF0MpZYRPr1qFp89iIoH1648M6++cOL1wnghMepbfEdU6WXJcY9I+flfcrQlwcEhDqw5lrTPYHI4kxj4sqjvGfVb6kqM5vEDUdCYOLWvEHQ8x9kiEuEsqAOnZyFKIjGg7Qu4t+EywrFQSywevAyCtWCeqYhy+wMwHz7GC4uj/j2RKKIG1zSLFrSioVFK2eNvnSrGiAuF/1+blOGvjHmPgoK/gZR6homB4cGhaoMZ4sY+V2f2g1UoE+URm8N3HmQEVVivDVPhVRbqr2eWbR0GdokRWOZ1IO8audMcrB6S6fvl7nzRvdf/ixbRKgBRHtpeWYezXnENWG+vywnL root@ubuntu
root@ubuntu:~#
```



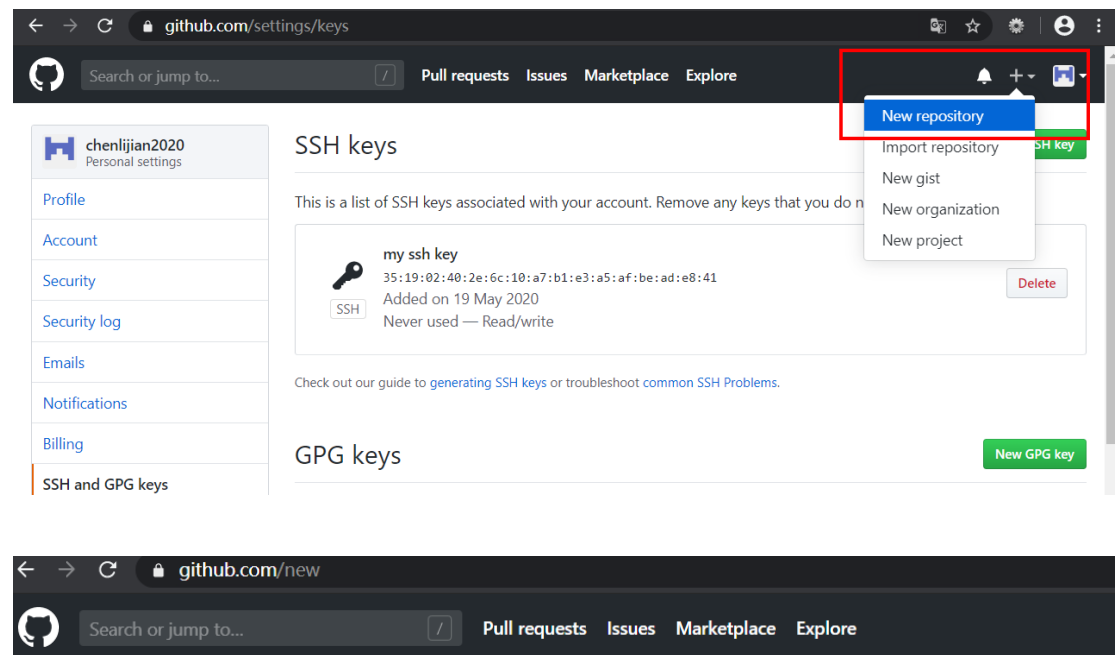
点“Add Key”，你就应该看到已经添加的 Key：



思考：为什么 GitHub 需要 SSH Key 呢？

### 创建一个新的仓库

在 Github 上创建自己第一个 Git 版本仓库吧，点击创建一个新的版本仓库：



### Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner:  / Repository name:

Great repository names are short and memorable. Need inspiration? How about [refactored-fiesta](#)?

Description (optional):

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

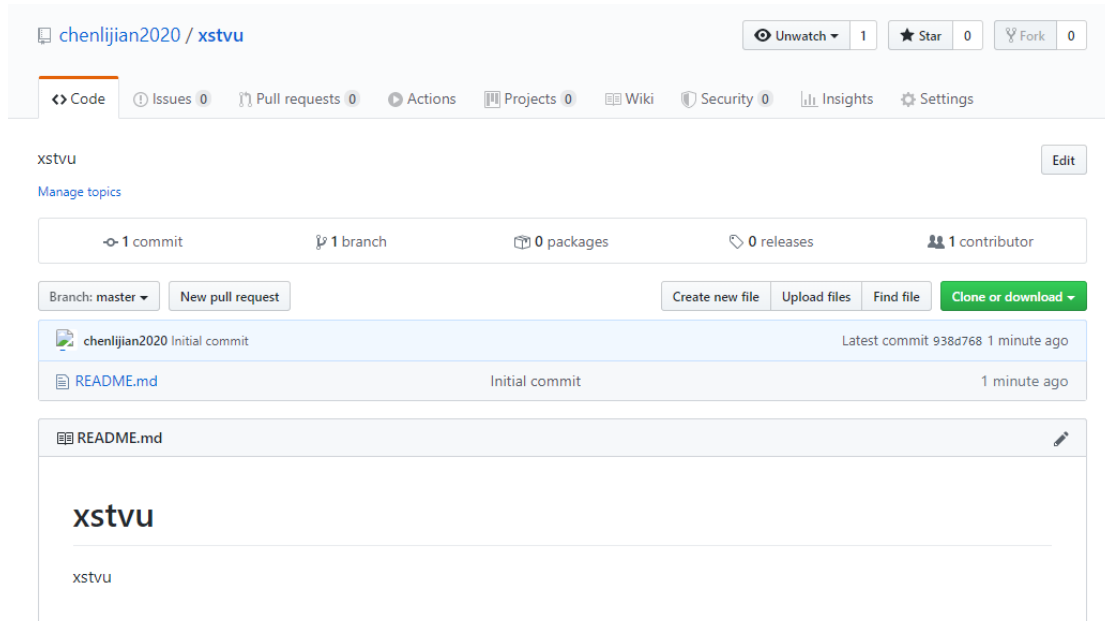
☐ Private  
You choose who can see and commit to this repository.

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

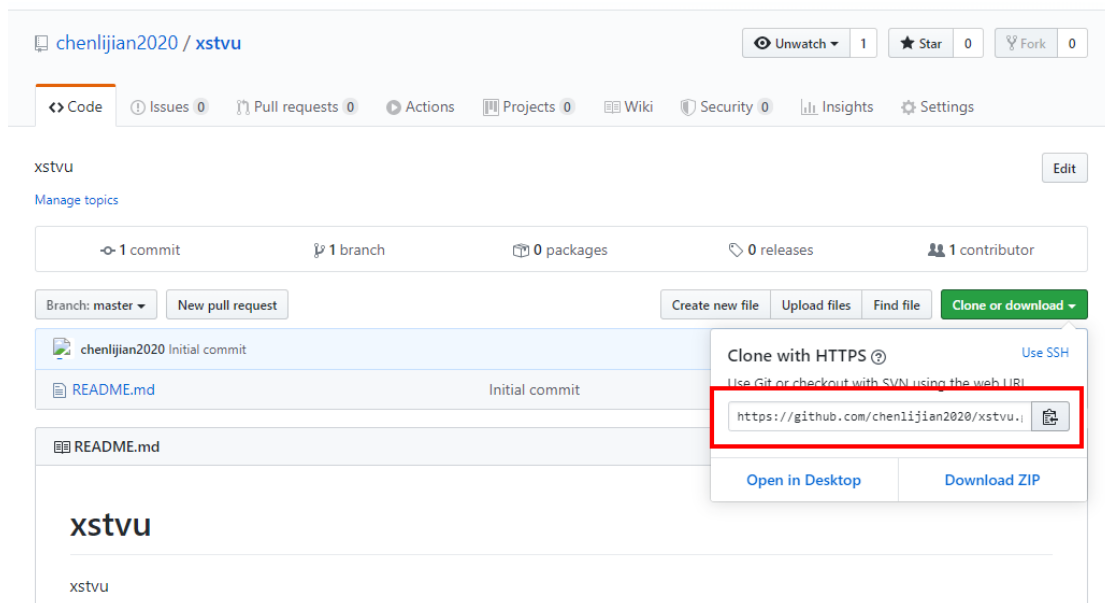
☒ Initialize this repository with a README  
This will let you immediately clone the repository to your computer.

Add .gitignore:  Add a license:

创建成功后会自动跳转到该仓库的页面：



复制版本仓库的克隆地址：



把版本仓库克隆到本地：

```
root@ubuntu:~# git clone https://github.com/chenlijian2020/xstvu.git
Cloning into 'xstvu'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
root@ubuntu:~# ls -al
total 32
```

```

drwx----- 6 root root 4096 May 18 17:39 .
drwxr-xr-x 24 root root 4096 May 18 06:50 ..
-rw-r--r-- 1 root root 3106 Apr  9  2018 .bashrc
drwx----- 2 root root 4096 Feb  3 10:25 .cache
drwx----- 3 root root 4096 May 18 15:24 .gnupg
-rw-r--r-- 1 root root 148 Aug 17  2015 .profile
drwx----- 2 root root 4096 May 18 15:24 .ssh
drwxr-xr-x  3 root root 4096 May 18 17:39 xstvu
root@ubuntu:~# ls -al xstvu
total 16
drwxr-xr-x 3 root root 4096 May 18 17:39 .
drwx----- 6 root root 4096 May 18 17:39 ..
drwxr-xr-x 8 root root 4096 May 18 17:39 .git
-rw-r--r-- 1 root root 14 May 18 17:39 README.md
root@ubuntu:~# cd xstvu
root@ubuntu:~/xstvu# git remote -v
origin    https://github.com/chenlijian2020/xstvu.git (fetch)
origin    https://github.com/chenlijian2020/xstvu.git (push)

```

将该 Github 版本仓库添加到本机的远程列表中，在本地的 xstvu 仓库中运行如下命令：

```

root@ubuntu:~/xstvu# git remote add clj git@github.com:chenlijian2020/xstvu.git
root@ubuntu:~/xstvu# git remote -v
clj       git@github.com:chenlijian2020/xstvu.git (fetch)
clj       git@github.com:chenlijian2020/xstvu.git (push)
origin    https://github.com/chenlijian2020/xstvu.git (fetch)
origin    https://github.com/chenlijian2020/xstvu.git (push)

```

在本地的 xstvu 仓库中编写一个新文件，将该文件提交到本地的 Git 版本仓库，首先要配置个人信息：

```

root@ubuntu:~/xstvu# git config --global user.email "xstvu2020@163.com"
root@ubuntu:~/xstvu# git config --global user.name "Chenlj"
root@ubuntu:~/xstvu# git add features
root@ubuntu:~/xstvu# git commit -m "add features"
[master 807782f] add features
1 file changed, 1 insertion(+)
create mode 100644 features

```

然后将本地的 Git 仓库同步到远程 Git 服务器上(第一次请加上参数-u，代表关联本地与远程)：

```

root@ubuntu:~/xstvu# git push -u clj 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)? yes
Warning: Permanently added 'github.com,52.74.223.119' (RSA) to the list of known hosts.
Counting objects: 3, done.
Delta compression using up to 2 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 304 bytes | 304.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To github.com:chenlijian2020/xstvu.git
   938d768..807782f  master -> master
Branch 'master' set up to track remote branch 'master' from 'clj'.
root@ubuntu:~/xstvu#
```

刷新一下 Web 页面，果然看到版本仓库已经同步了：

chenlijian2020 / xstvu

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xstvu Edit

Manage topics

2 commits 1 branch 0 packages 0 releases 1 contributor

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

chenlijian2020 add features		Latest commit 807782f 24 minutes ago
README.md	Initial commit	1 hour ago
features	add features	24 minutes ago

README.md

# xstvu

xstvu