

GitLab Manual

Introduction of GitLab

- A complete open-source DevOps platform
- Gain visibility and insight into how your business is performing
- Regardless of your process, GitLab provides powerful planning tools to keep everyone synchronized
- Security capabilities, integrated into your development lifecycle

GitLab Docs : <https://docs.gitlab.com/ee/README.html>

[More Information](#)

GitLab of IHEP

GitLab URL : <http://code.ihep.ac.cn>

- IHEP SSO Account sign in
- Apply for IHEP SSO Account, click here

Helpdesk : <http://helpdesk.ihep.ac.cn>

Client Tools

1. Independent client tools (simplified git daily operation, fast start)

- TortoiseGit
- SourceTree

2. Git client of IDE

- Xcode
- Eclipse – Egit
- Visual Studio – Git Integration & GitHub Extension
- Visual Studio Code

Introduction of SourceTree

SourceTree URL: <https://www.sourcetreeapp.com>

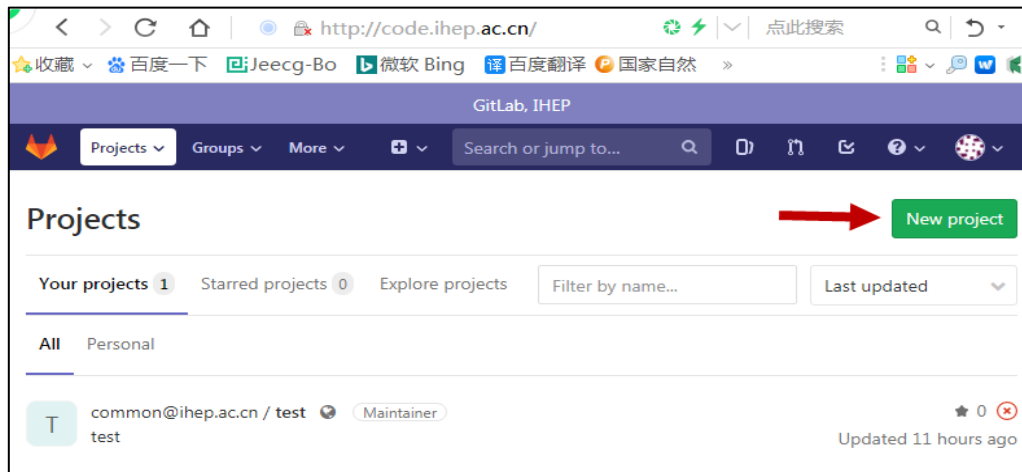
- A free Git client for Windows and Mac
- Simplifies how you interact with your Git repositories so you can focus on coding
- Visualize and manage your repositories through Sourcetree's simple Git GUI
- [Install and set up Sourcetree](#)
- [Sources Docs](#)



Get started with Sourcetree

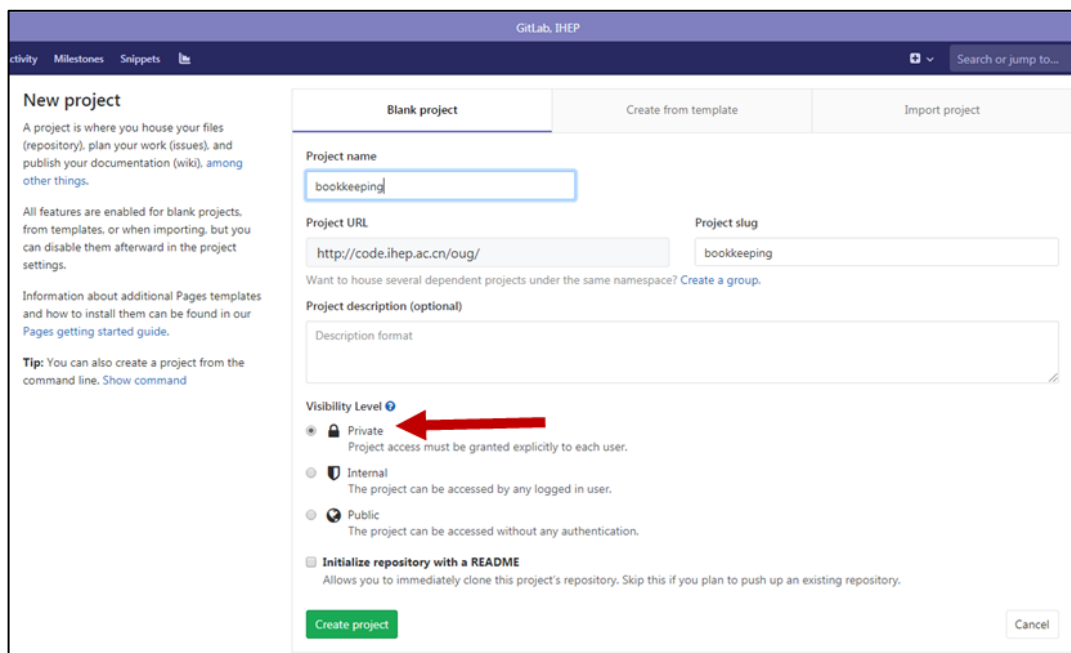
1. Create project
2. Client connection
3. Clone a remote repository
4. Code commit
5. Code push
6. Code pull

1. Create Project



- **Authority**

1. Private : only group members can see
2. Internal : only logged in users can see
3. Public : everyone can see



- **commands**

If you would like to use git command, GitLab shows command line instructions.

New file

Add README

Add CHANGELOG

Add CONTRIBUTING

Auto DevOps enabled

Add Kubernetes cluster

Command line instructions

Git global setup

```
git config --global user.name "oug@ihep.ac.cn"
git config --global user.email "oug@ihep.ac.cn"
```

Create a new repository

```
git clone http://code.ihep.ac.cn/oug/bookkeeping.git
cd bookkeeping
touch README.md
git add README.md
git commit -m "add README"
git push -u origin master
```

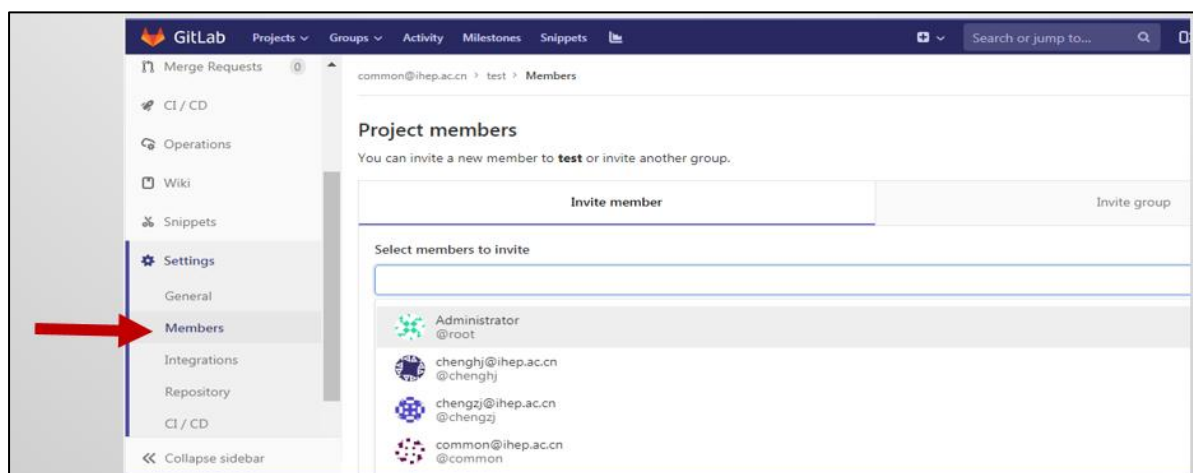
Existing folder

```
cd existing_folder
git init
git remote add origin http://code.ihep.ac.cn/oug/bookkeeping.git
git add .
git commit -m "Initial commit"
git push -u origin master
```

- **Members**

Users can be members of multiple groups and projects. The following access levels are - available

- Guest
- Reporter
- Developer
- Maintainer
- Owner



Permissions guide : <https://docs.gitlab.com/ee/development/permissions.html#members>.

2. Client connection

Client connection SSH key

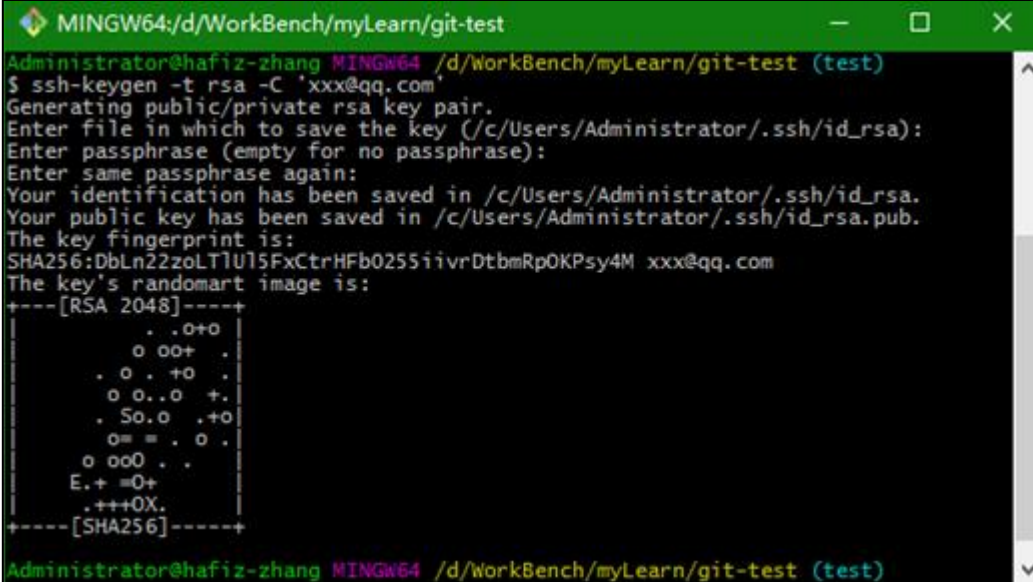
If you are a project member, you can use this method to get and push operations without verifying the account.

Generate an SSH Key on Windows, The most straight forward option is to utilize Git Bash.

1. Open local git bash

```
git config --global user.name "your_username"  
git config --global user.email xxx@xxx.com  
ssh-keygen -t rsa -C 'xxx@xxx.com'
```

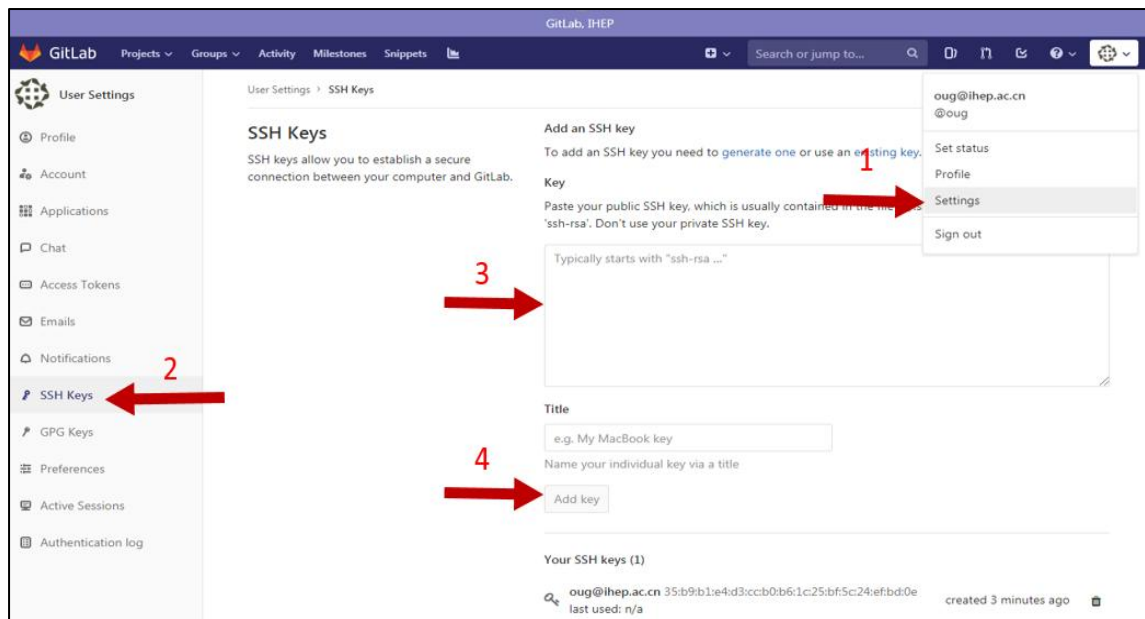
A public key and a private key should be created. The name of public key is id_rsa.pub.



```
MINGW64:/d/WorkBench/myLearn/git-test  
Administrator@hafiz-zhang MINGW64 /d/WorkBench/myLearn/git-test (test)  
$ ssh-keygen -t rsa -C 'xxx@qq.com'  
Generating public/private rsa key pair.  
Enter file in which to save the key (/c/Users/Administrator/.ssh/id_rsa):  
Enter passphrase (empty for no passphrase):  
Enter same passphrase again:  
Your identification has been saved in /c/Users/Administrator/.ssh/id_rsa.  
Your public key has been saved in /c/Users/Administrator/.ssh/id_rsa.pub.  
The key fingerprint is:  
SHA256:DbLn22zoLTlU15FxCtrHFb0255iivrDtbmRp0KPsy4M xxx@qq.com  
The key's randomart image is:  
+----[RSA 2048]-----+  
  . .o+o  
  o oo+ .  
  . o . +o .  
  o o..o +.  
  . So.o .+o  
  o= . o .  
  o ooO . .  
  E.+ =O+  
  .+++OX.  
+----[SHA256]-----+  
Administrator@hafiz-zhang MINGW64 /d/WorkBench/myLearn/git-test (test)
```

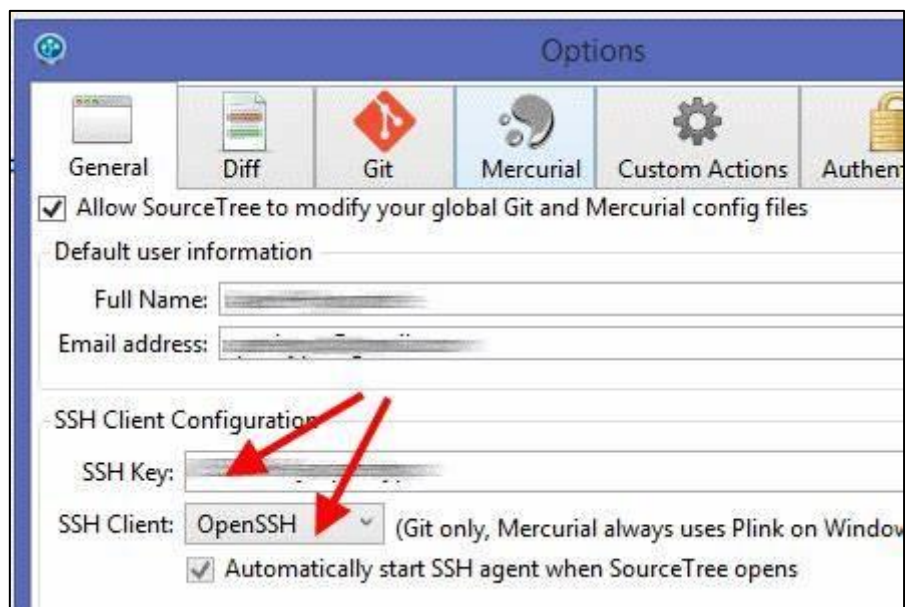
2. Add public Key to GitLab

Open ~/.ssh/id_rsa.pub, copy the content to GitLab.



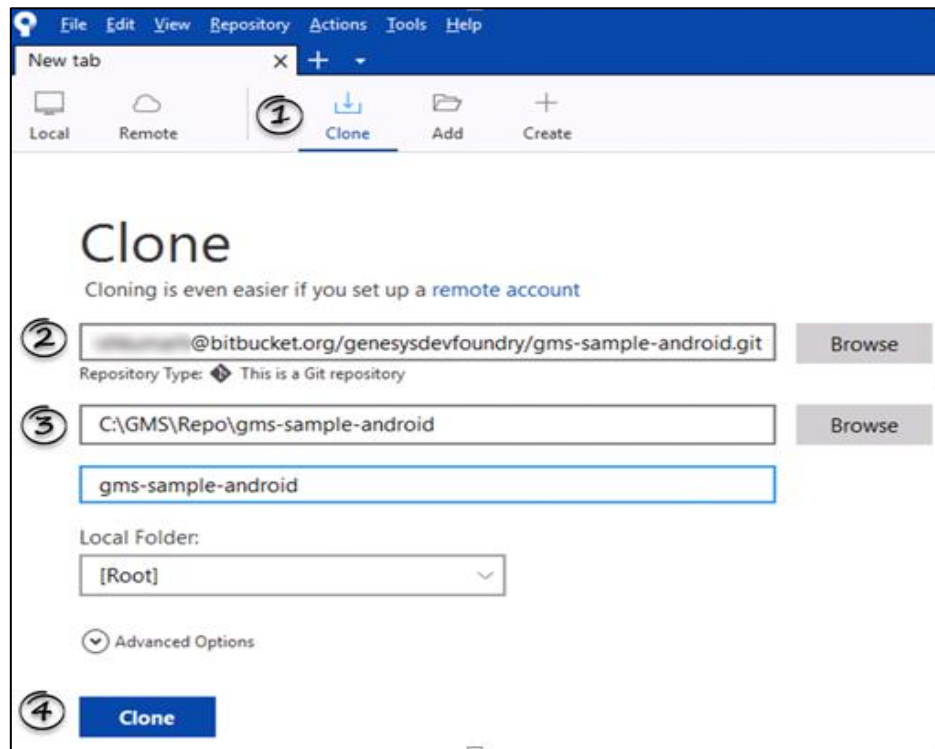
3. Add private Key to SourceTree

In SourceTree Tools > Options > General > SSH Client Configuration, input Full Name and Email address, point SSH Key to the id_rsa key, and select OpenSSH as the SSH Client.

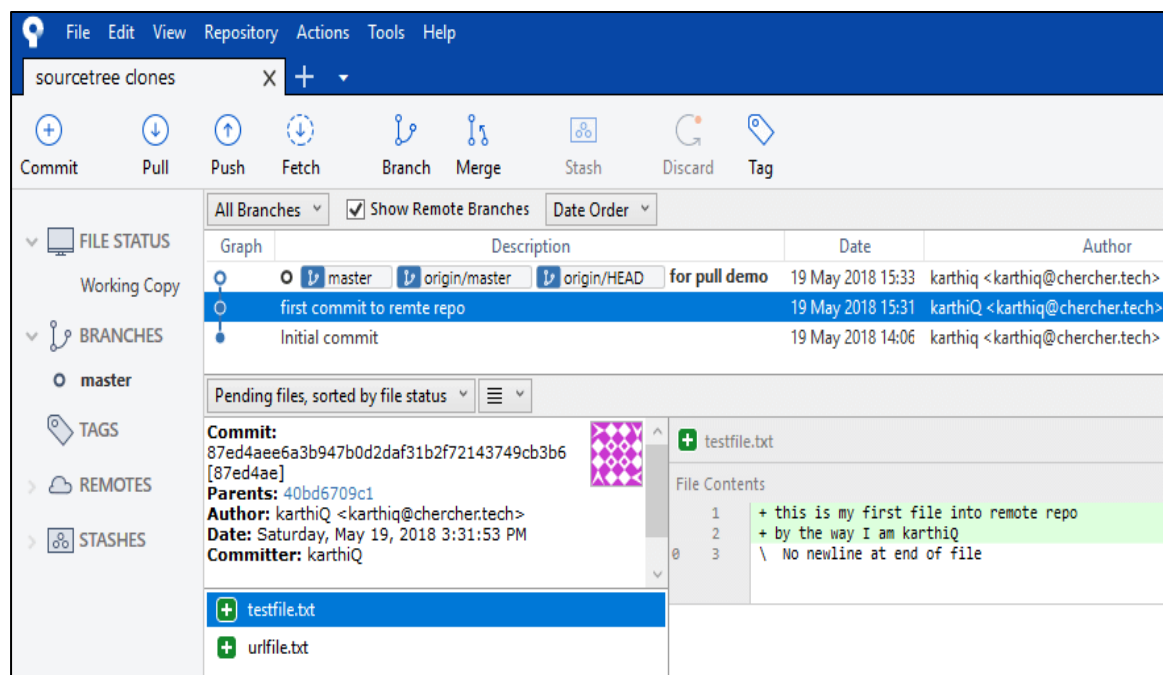


3. Clone a remote repository

If you have an existing remote repository on GitLab, you need to copy or clone it to your computer with SourceTree. Test to clone a project with SSH key.



Click the clone button, then you will see the repository below.



[Clone a remote repository](#)

4. Code commit

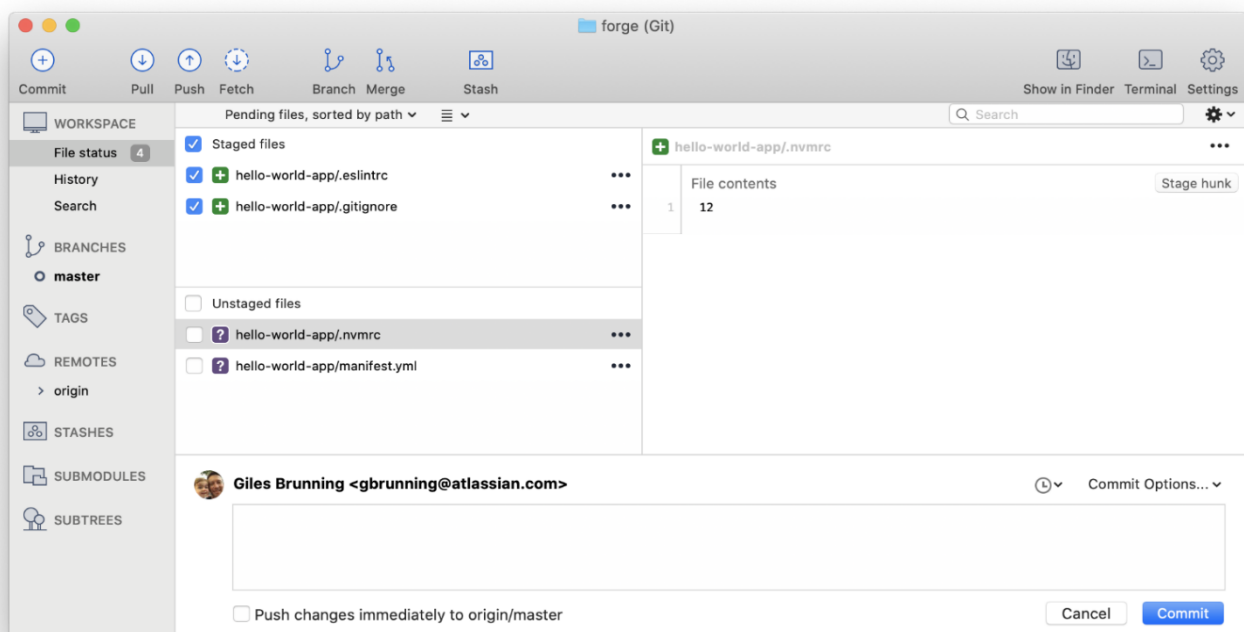
Understand how to run basic Git operations like commit in SourceTree.

1. Modify your code, add , delete, modify etc
2. open the SourceTree
3. Click Commit in the toolbar
4. Select the files to commit in the Pending files panel
5. Enter a commit message
6. Click Commit at the bottom of the window.

Tips:

Commit only put the changes to local repository, others can't see the code you modified.

The git push command is used to upload local repository content to a remote repository. Pushing is how you transfer commits from your local repository to a remote repo. Before push your code you must submit first.

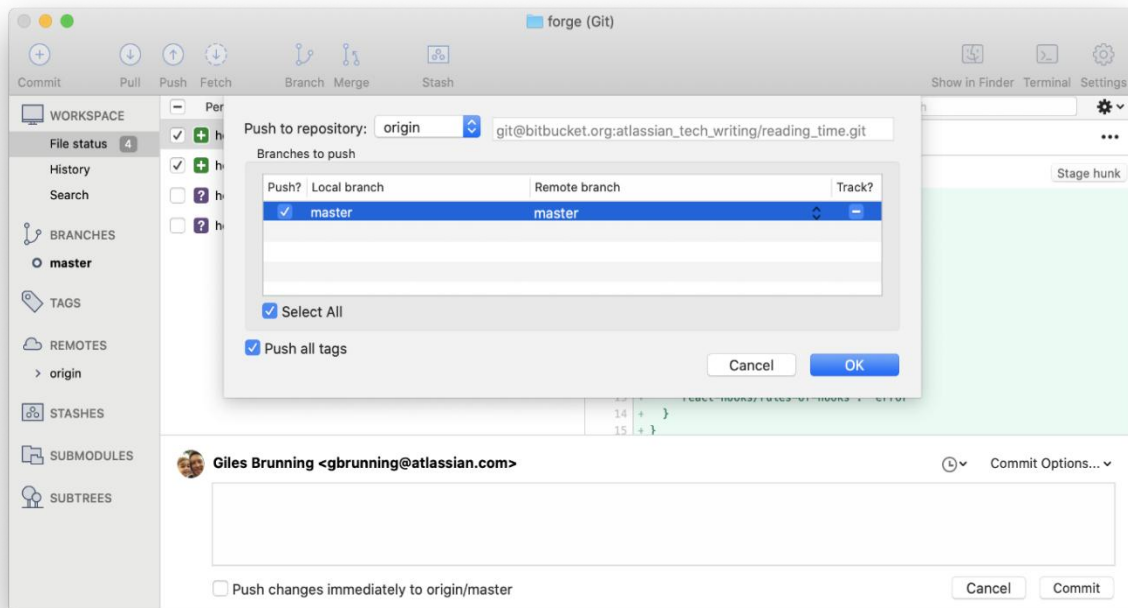


[Commit, Push, and Pull a repository on SourceTree](#)

5. Code push

Push changes from a local repository to a remote repository

1. Click Push in the toolbar.
2. Select the local branch to push and the remote branch to push to.
3. Click OK.



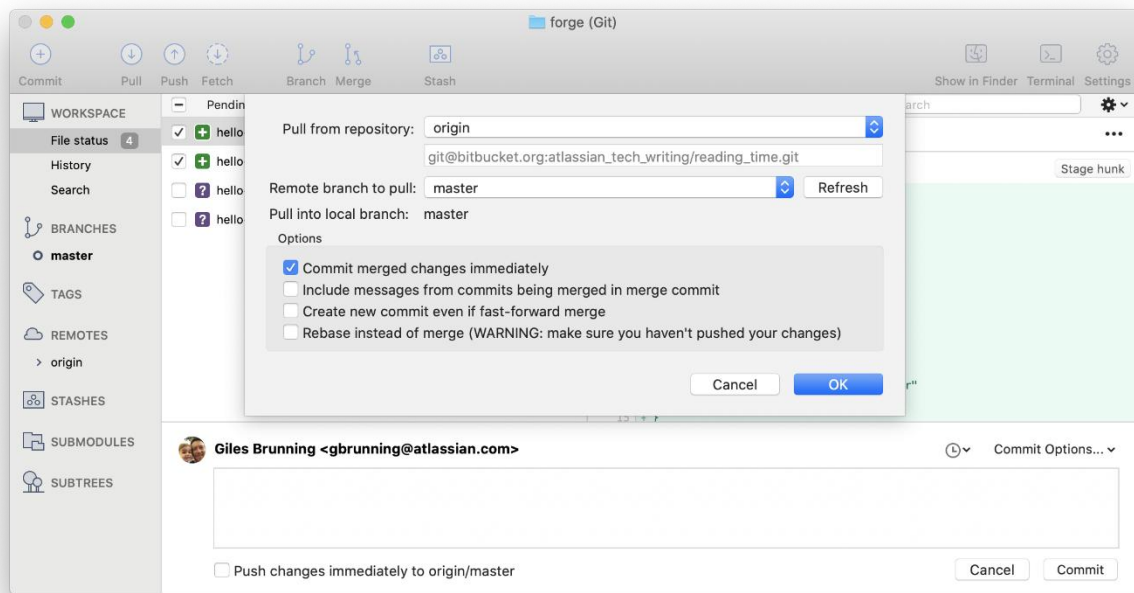
Tips:

Teammates can see the code you modified now.

6. Code pull

Pull changes from a remote repository

1. Click the Pull button in the toolbar.
2. Select the remote repository to pull from.
3. Select the remote branch to pull changes from.
4. Click OK.



GitLab and SourceTree are powerful, there are more functions waiting for you.

[Create and push a branch to the remote repository](#)

[Merge changes from one branch to another](#)