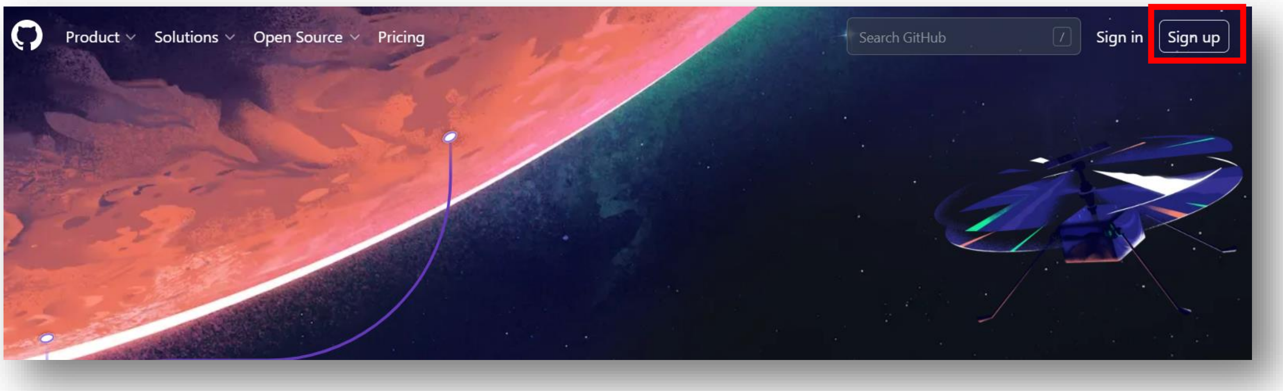
Git Documentation

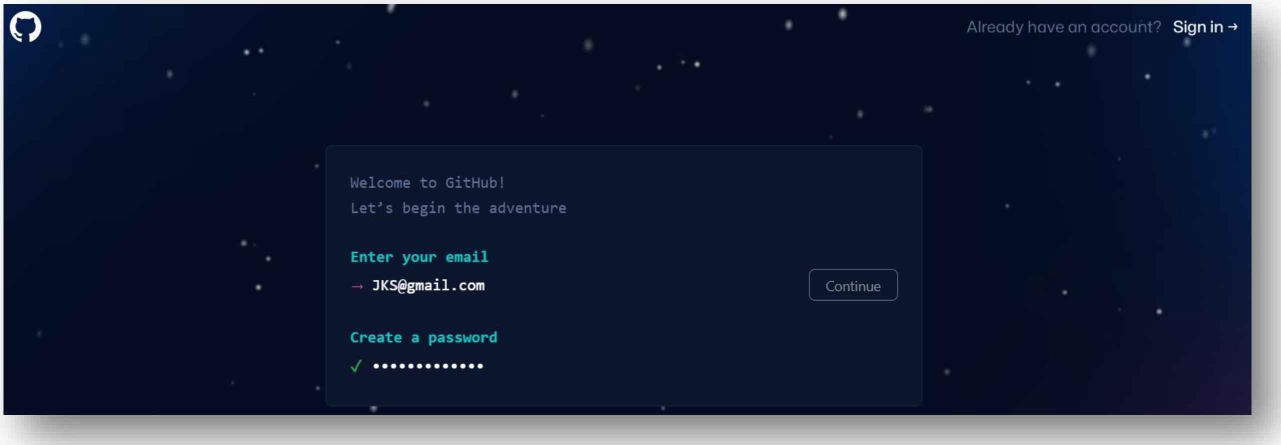
Table of Contents

Git Setup

GitHub Registration

Go to (https://github.com/) to register an account for GitHub. If already own an account, just simply click Sign In beside the red box.





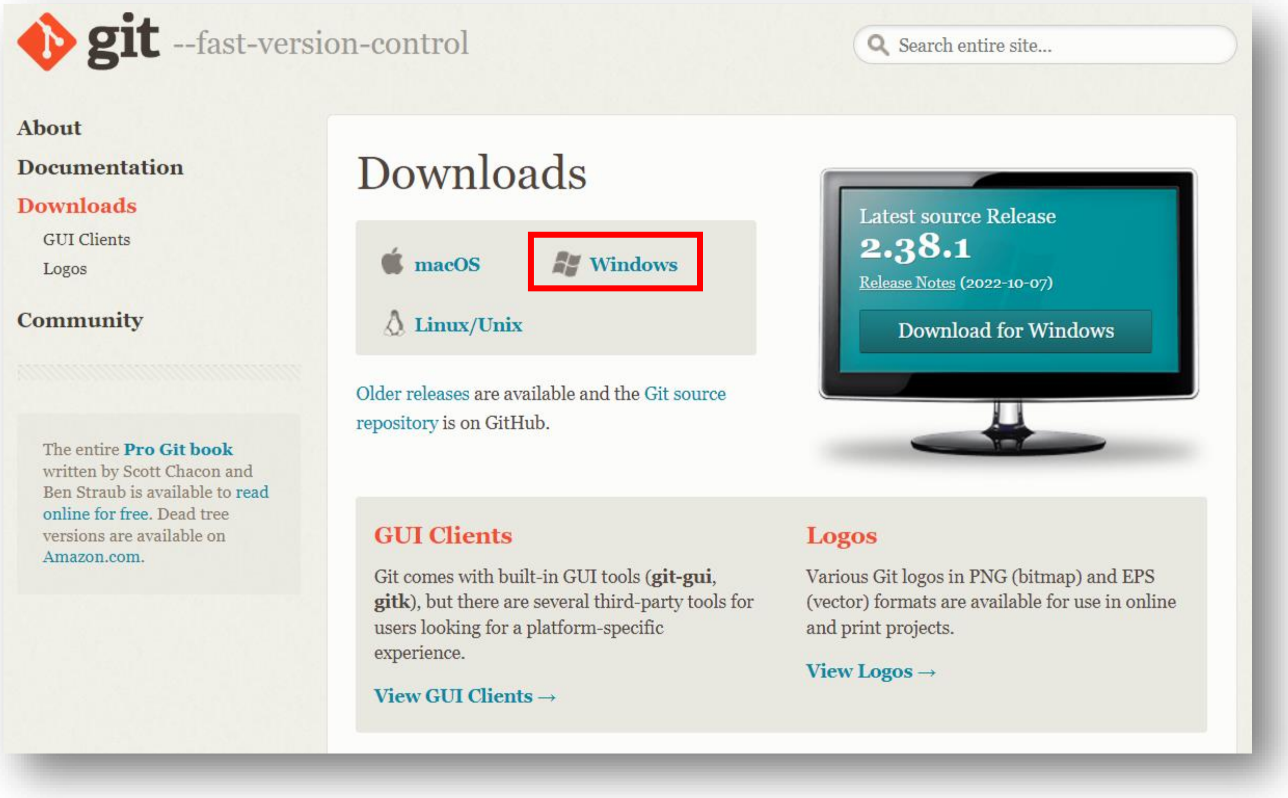
Welcome to GitHub!
Let's begin the adventure

Enter your email
→ JKS@gmail.com

Create a password
✓ •••••••••••••

Git Installation

Download Git latest version at (https://git-scm.com/downloads) based on device’s OS.

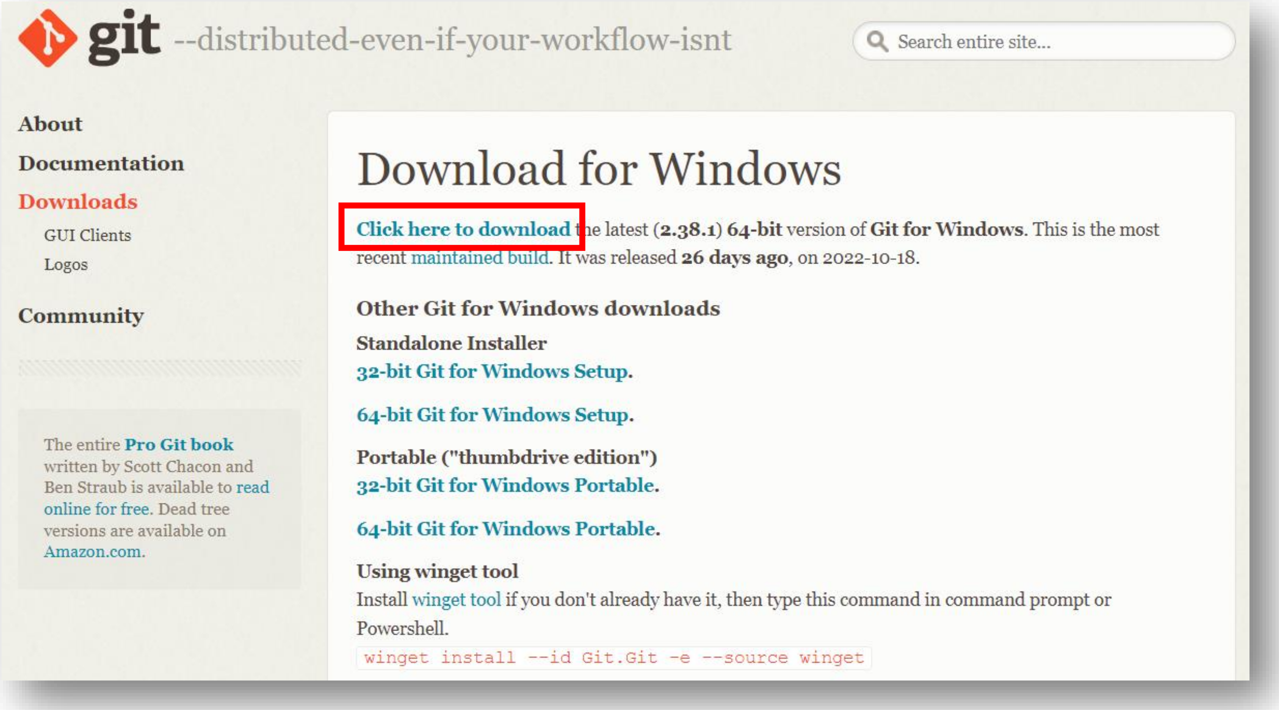


The entire **Pro Git book** written by Scott Chacon and Ben Straub is available to read online for free. Dead tree versions are available on Amazon.com.

Older releases are available and the Git source repository is on GitHub.

Git comes with built-in GUI tools (**git-gui**, **gitk**), but there are several third-party tools for users looking for a platform-specific experience.

Various Git logos in PNG (bitmap) and EPS (vector) formats are available for use in online and print projects.



The entire Pro Git book written by Scott Chacon and Ben Straub is available to read online for free. Dead tree versions are available on Amazon.com.

Download for Windows

Click here to download the latest (2.38.1) 64-bit version of Git for Windows. This is the most recent maintained build. It was released 26 days ago, on 2022-10-18.

Other Git for Windows downloads

Standalone Installer

32-bit Git for Windows Setup.

64-bit Git for Windows Setup.

Portable ("thumbdrive edition")

32-bit Git for Windows Portable.

64-bit Git for Windows Portable.

Using winget tool

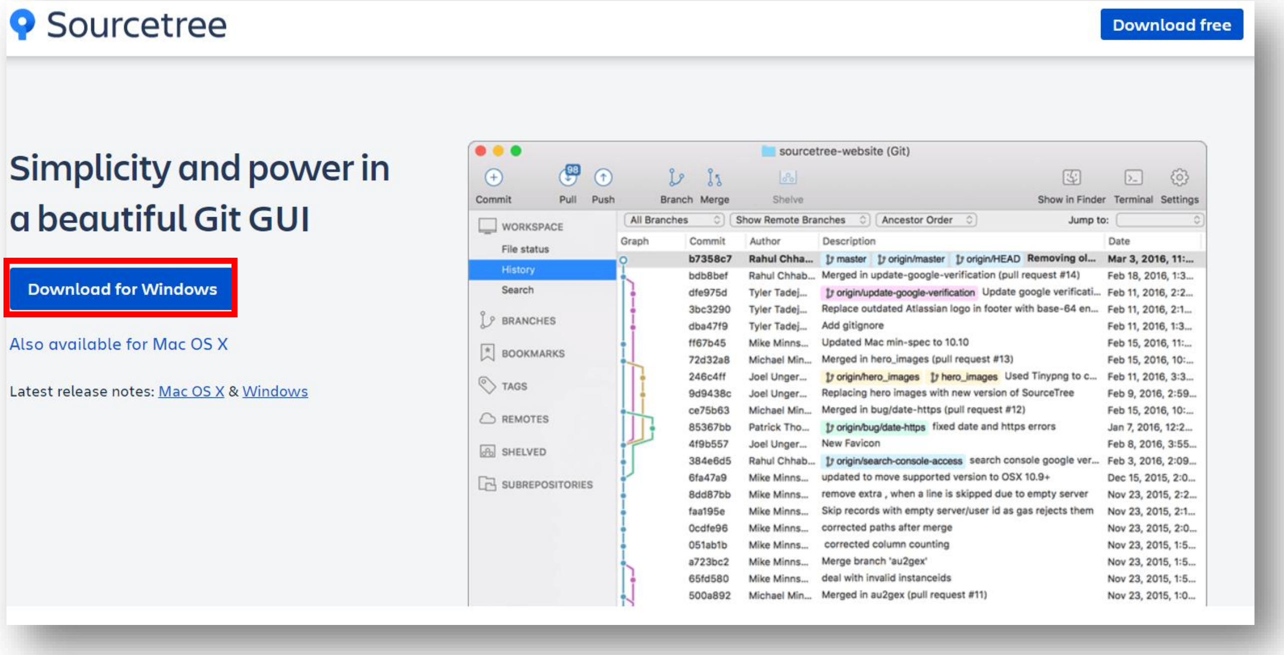
Install winget tool if you don't already have it, then type this command in command prompt or Powershell.

```
winget install --id Git.Git -e --source winget
```

*After complete, start install the Git software by its default setting. (No step here)

SourceTree Installation

Download SourceTree latest version at (https://www.sourcetreeapp.com/) based on device's OS.



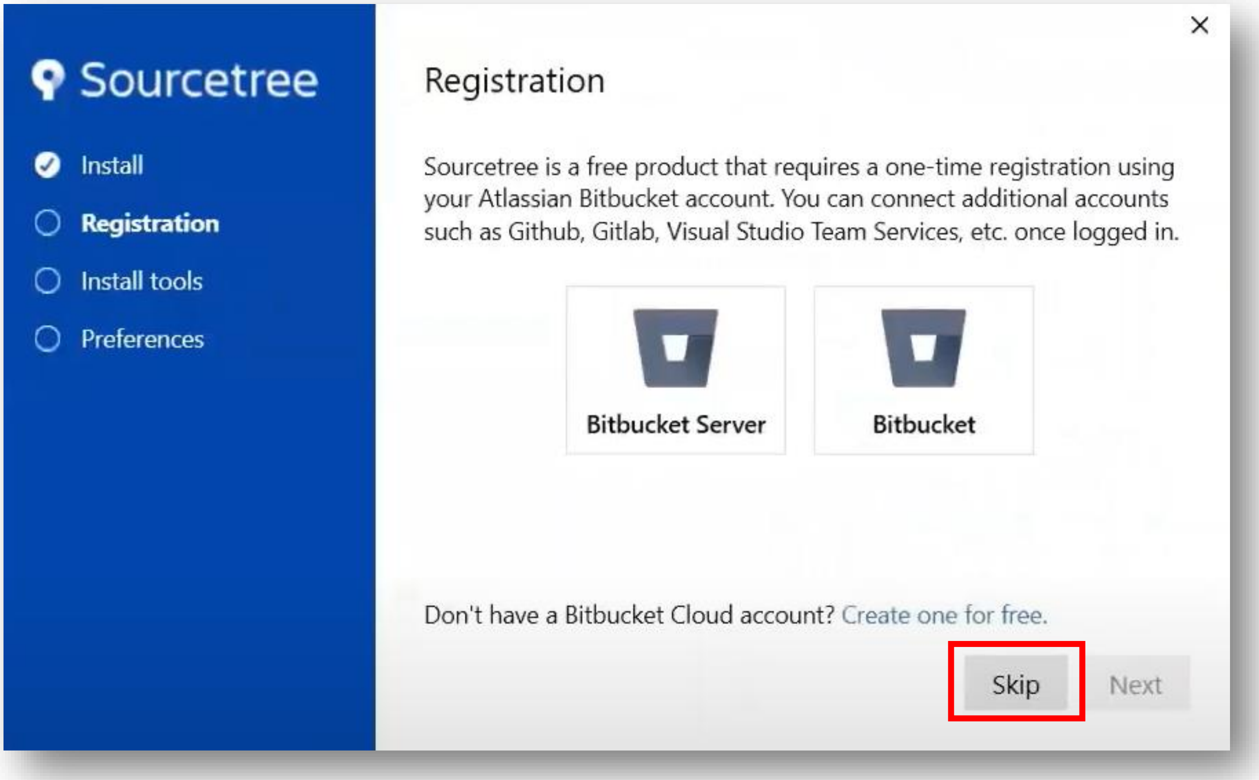
Simplicity and power in a beautiful Git GUI

Latest release notes: Mac OS X & Windows

sourcetree-website (Git)

Graph	Commit	Author	Description	Date
	b7358c7	Rahul Chha...	master origin/master origin/HEAD Removing ol...	Mar 3, 2016, 11:...
	bdb8bef	Rahul Chhab...	Merged in update-google-verification (pull request #14)	Feb 18, 2016, 1:3...
	dfe975d	Tyler Tadej...	origin/update-google-verification Update google verificati...	Feb 11, 2016, 2:2...
	3bc3290	Tyler Tadej...	Replace outdated Atlassian logo in footer with base-64 en...	Feb 11, 2016, 2:1...
	dba47f9	Tyler Tadej...	Add gitignore	Feb 11, 2016, 1:3...
	ff67b45	Mike Minns...	Updated Mac min-spec to 10.10	Feb 15, 2016, 11:...
	72d32a8	Michael Min...	Merged in hero_images (pull request #13)	Feb 15, 2016, 10:...
	246c4ff	Joel Unger...	origin/hero_images hero_images Used Tinypng to c...	Feb 11, 2016, 3:3...
	9d9438c	Joel Unger...	Replacing hero images with new version of SourceTree	Feb 9, 2016, 2:59...
	ce75b63	Michael Min...	Merged in bug/date-https (pull request #12)	Feb 15, 2016, 10:...
	85367bb	Patrick Tho...	origin/bug/date-https fixed date and https errors	Jan 7, 2016, 12:2...
	4f9b557	Joel Unger...	New Favicon	Feb 8, 2016, 3:55...
	384e6d5	Rahul Chhab...	origin/search-console-access search console google ver...	Feb 3, 2016, 2:09...
	6fa47a9	Mike Minns...	updated to move supported version to OSX 10.9+	Dec 15, 2015, 2:0...
	8dd87bb	Mike Minns...	remove extra , when a line is skipped due to empty server	Nov 23, 2015, 2:2...
	faa195e	Mike Minns...	Skip records with empty server/user id as gas rejects them	Nov 23, 2015, 2:1...
	0cdfe96	Mike Minns...	corrected paths after merge	Nov 23, 2015, 2:0...
	051ab1b	Mike Minns...	corrected column counting	Nov 23, 2015, 1:5...
	a723bc2	Mike Minns...	Merge branch 'au2gex'	Nov 23, 2015, 1:5...
	65fd580	Mike Minns...	deal with invalid instanceids	Nov 23, 2015, 1:5...
	500a892	Michael Min...	Merged in au2gex (pull request #11)	Nov 23, 2015, 1:0...

After complete, start install and setup for the SourceTree software.

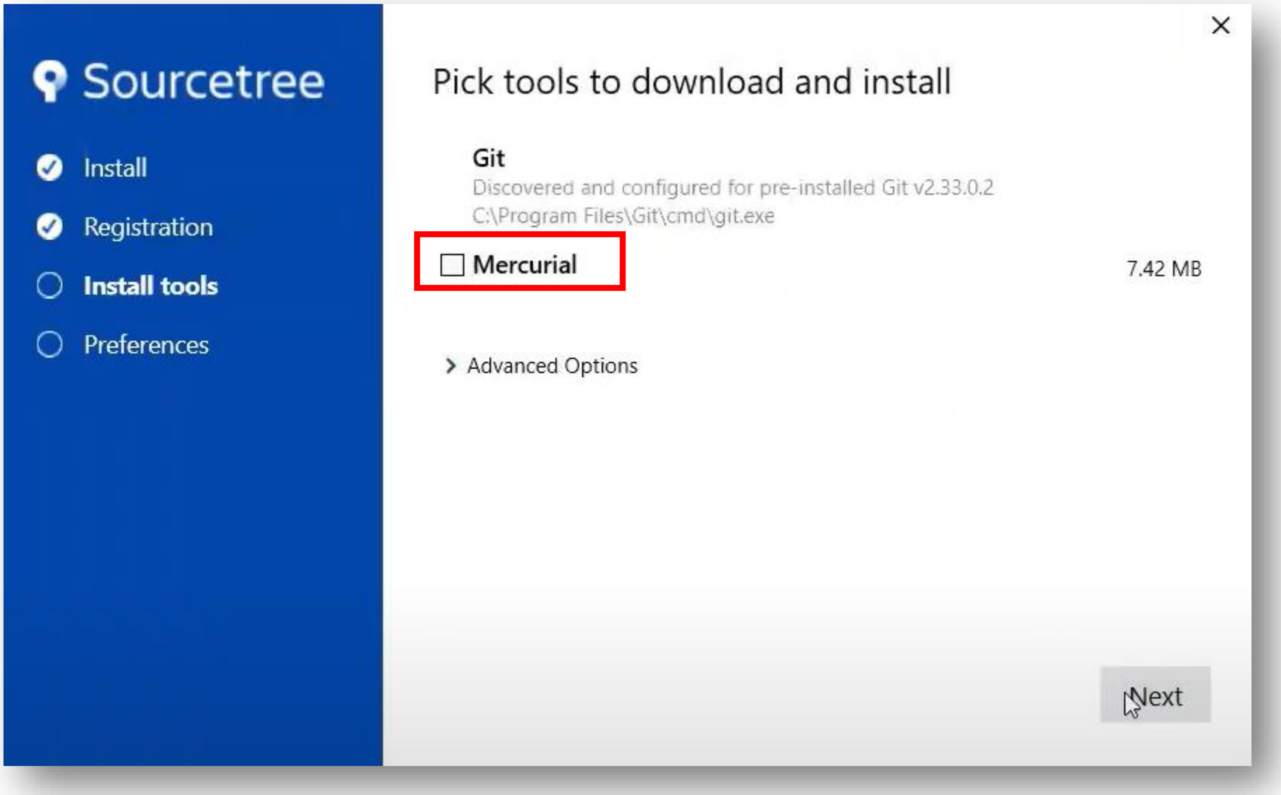


Registration

Sourcetree is a free product that requires a one-time registration using your Atlassian Bitbucket account. You can connect additional accounts such as Github, Gitlab, Visual Studio Team Services, etc. once logged in.

Don't have a Bitbucket Cloud account? Create one for free.

Click skip button for skipping registration for Bitbucket Services.



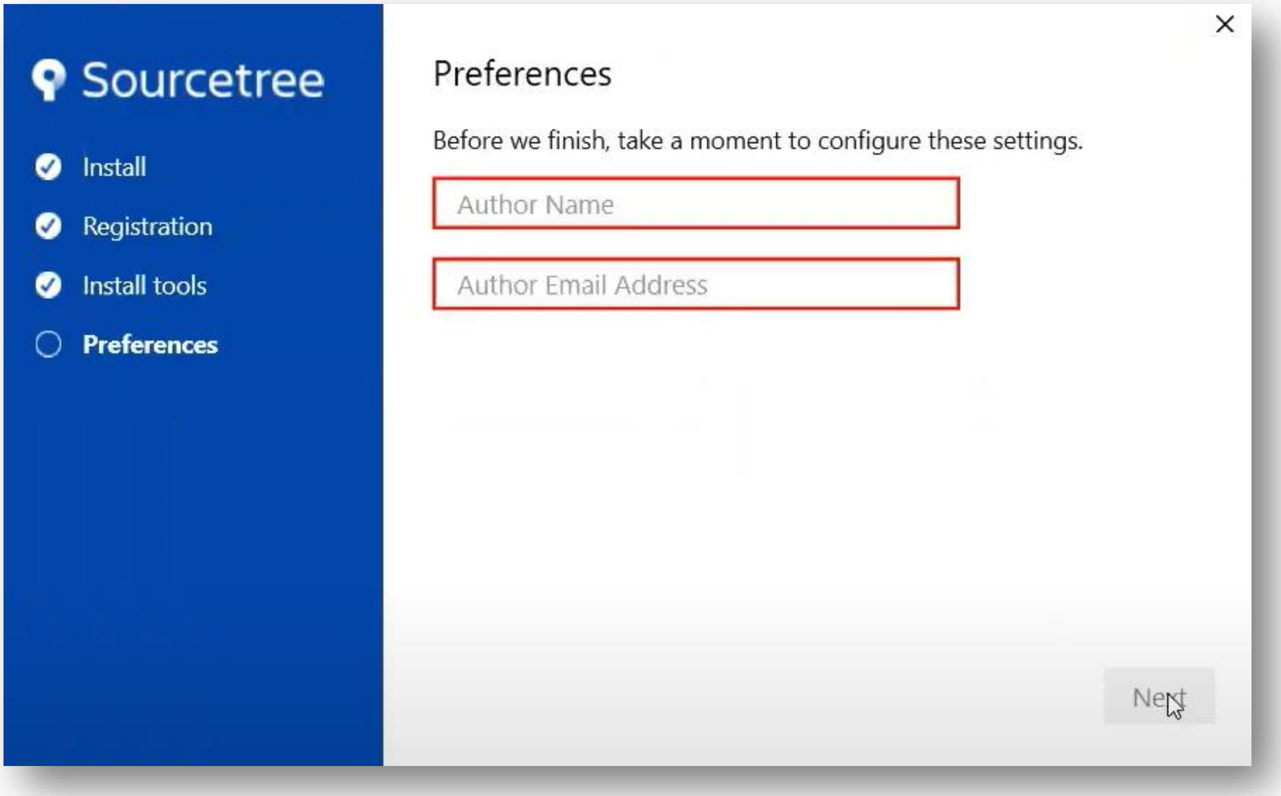
Pick tools to download and install

Git
Discovered and configured for pre-installed Git v2.33.0.2
C:\Program Files\Git\cmd\git.exe

□ Mercurial 7.42 MB

› Advanced Options

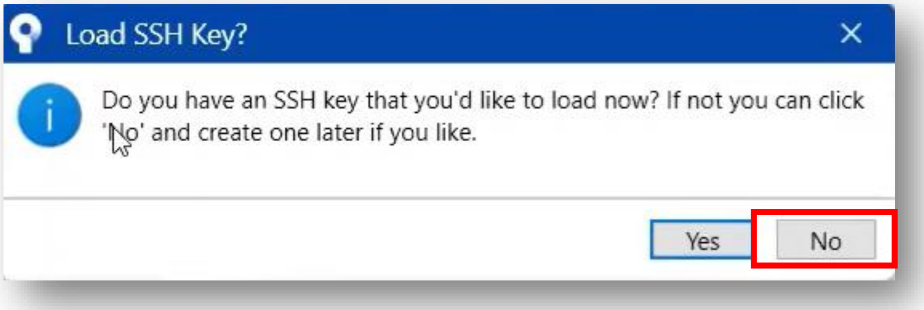
Make sure to uncheck the Mercurial checkbox before going to next.



Preferences

Before we finish, take a moment to configure these settings.

Key in name and email address to complete the setup for SourceTree.

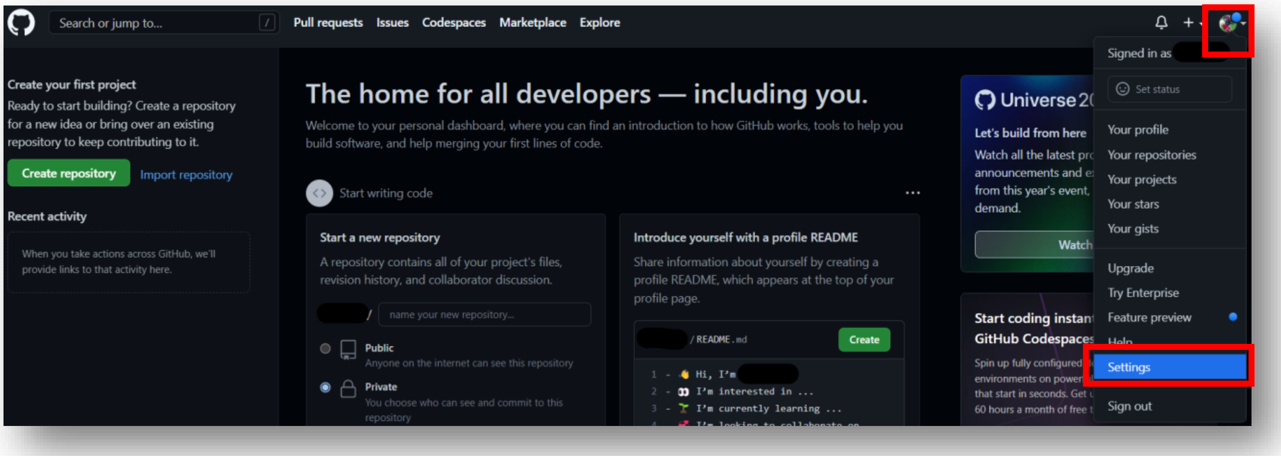


Do you have an SSH key that you'd like to load now? If not you can click 'No' and create one later if you like.

Click No for this prompt out message

Connect SourceTree to GitHub

Create Personal Access Token on GitHub



Create your first project

Ready to start building? Create a repository for a new idea or bring over an existing repository to keep contributing to it.

Recent activity

When you take actions across GitHub, we'll provide links to that activity here.

The home for all developers — including you.

Welcome to your personal dashboard, where you can find an introduction to how GitHub works, tools to help you build software, and help merging your first lines of code.

Start a new repository

A repository contains all of your project's files, revision history, and collaborator discussion.

[redacted] / name your new repository...

○ Public
Anyone on the internet can see this repository

● Private
You choose who can see and commit to this repository

Introduce yourself with a profile README

Share information about yourself by creating a profile README, which appears at the top of your profile page.

[redacted] / README.md

```
- 👋 Hi, I'm [redacted]
- 👀 I'm interested in ...
- 🌱 I'm currently learning ...
- 💞 I'm looking to collaborate on
```

Universe 2

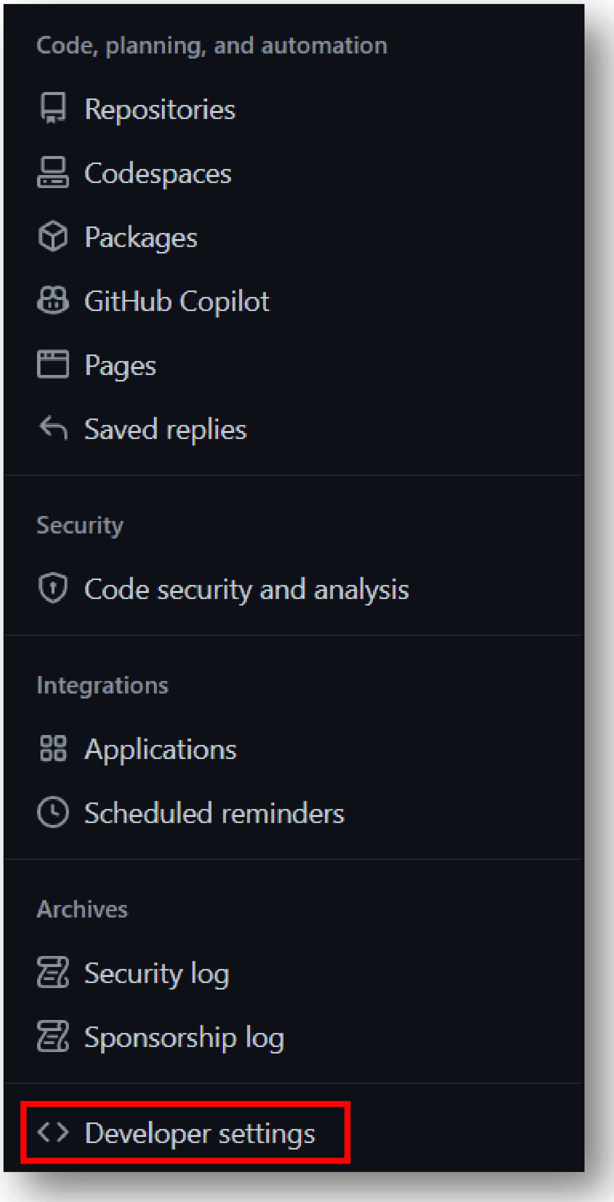
Let's build from here

Watch all the latest pro announcements and e from this year's event, demand.

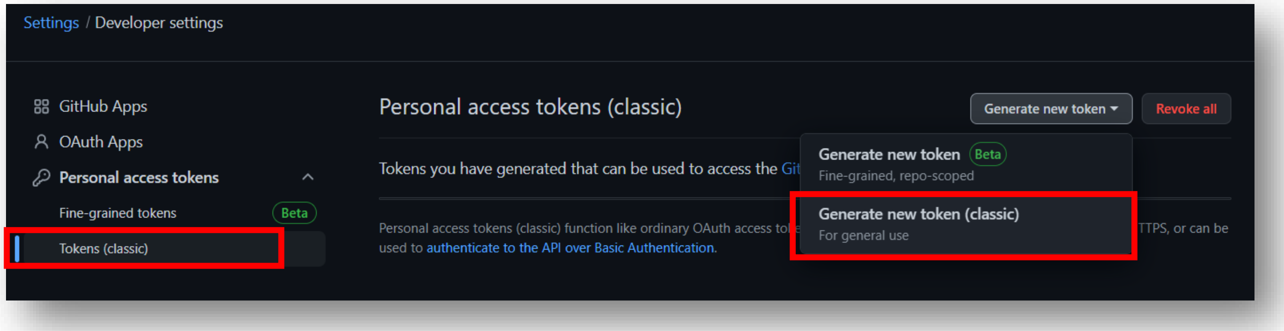
Start coding instan GitHub Codespaces

Spin up fully configured environments on power that start in seconds. Get 60 hours a month of free t

Find own profile at the top right corner and find the setting panel.



Scroll the left panel down until the Developer Settings show up.

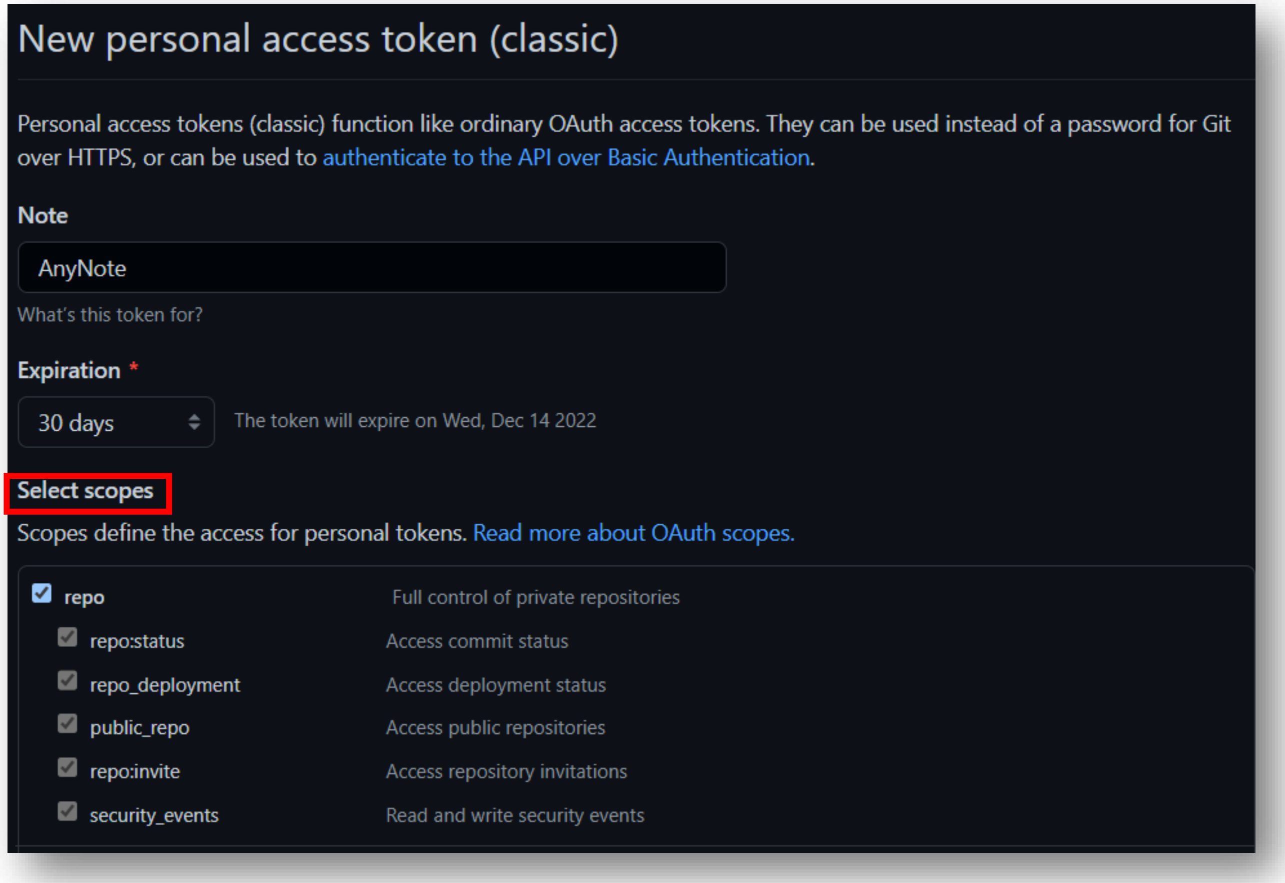


Personal access tokens (classic)

Tokens you have generated that can be used to access the Git

Personal access tokens (classic) function like ordinary OAuth access to TTPS, or can be used to authenticate to the API over Basic Authentication.

Go to Token (Classic) under Personal Access Tokens, click on the Generate New Token and click the Generate New Token (Classic)



New personal access token (classic)

Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to authenticate to the API over Basic Authentication.

Note

AnyNote

What's this token for?

Expiration *

30 days

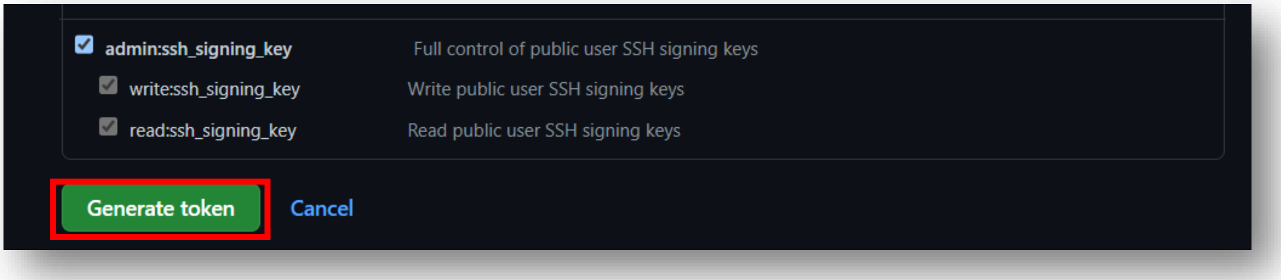
The token will expire on Wed, Dec 14 2022

Select scopes

Scopes define the access for personal tokens. Read more about OAuth scopes.

☑ repo	Full control of private repositories
☑ repo:status	Access commit status
☑ repo_deployment	Access deployment status
☑ public_repo	Access public repositories
☑ repo:invite	Access repository invitations
☑ security_events	Read and write security events

Insert any information it needed and tick all the checkbox under select scopes.

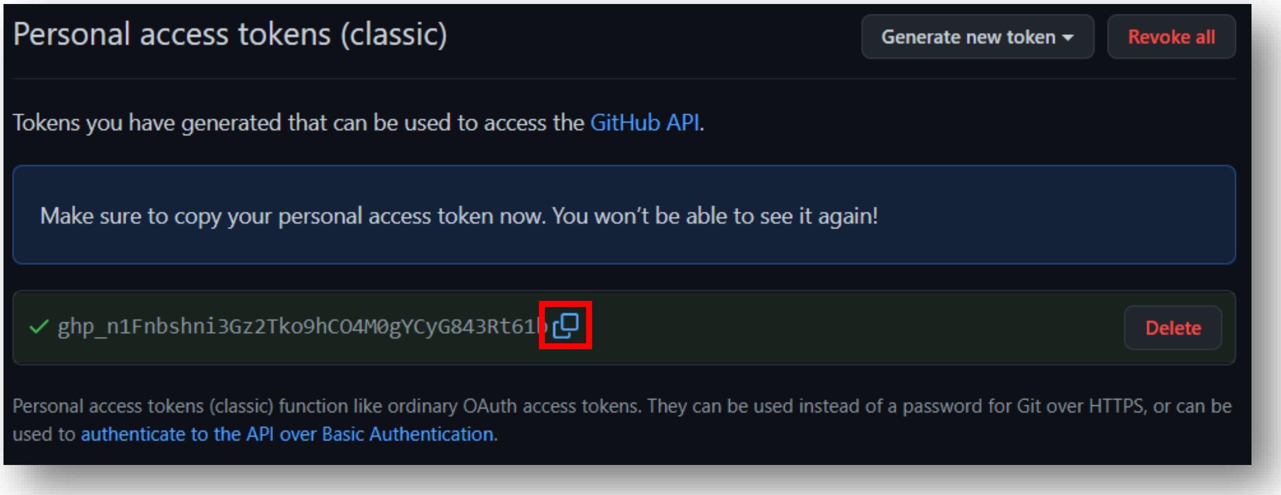


☑ admin:ssh_signing_key Full control of public user SSH signing keys

☑ write:ssh_signing_key Write public user SSH signing keys

☑ read:ssh_signing_key Read public user SSH signing keys

After done the setting, click Generate Token at the most bottom of the page.



Personal access tokens (classic)

Tokens you have generated that can be used to access the GitHub API.

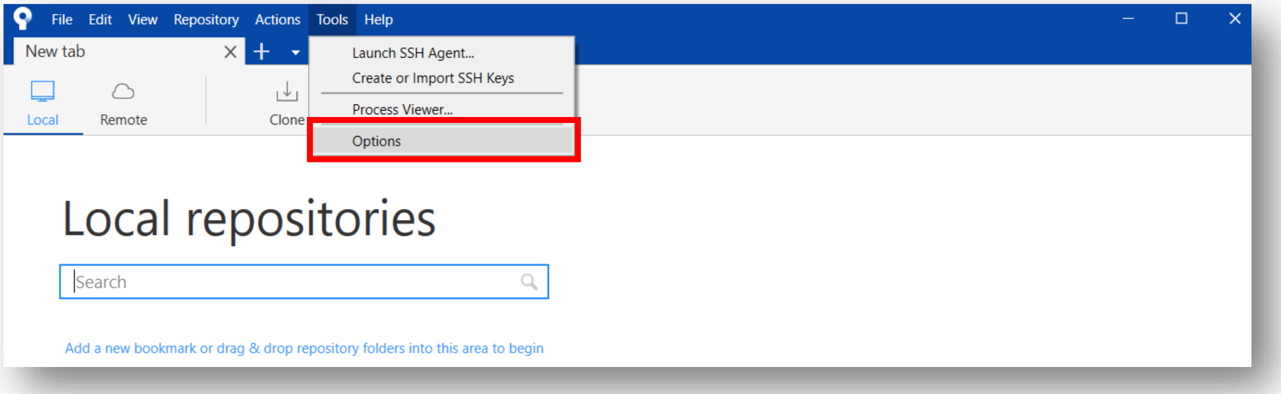
Make sure to copy your personal access token now. You won't be able to see it again!

✓ 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

Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to authenticate to the API over Basic Authentication.

Make sure to copy and save the token because it won't show again next time.

Connect SourceTree by GitHub's Personal Access Token

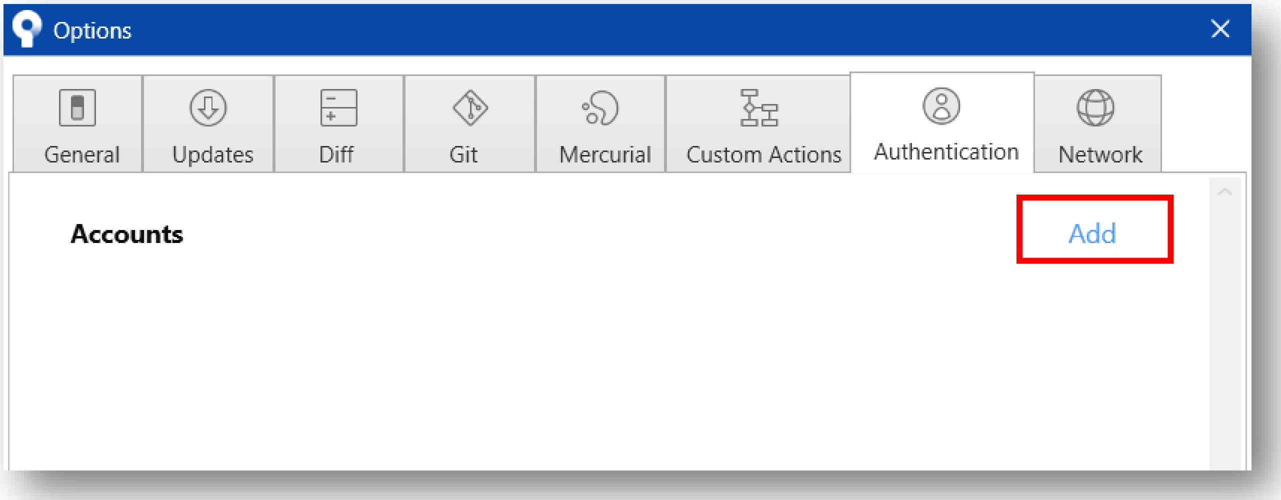


Local repositories

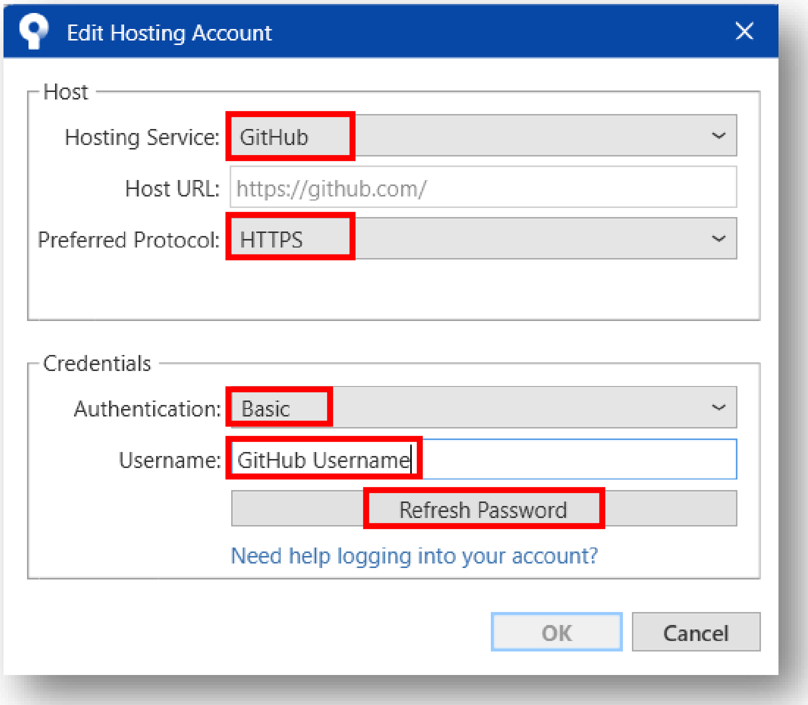
Search

Add a new bookmark or drag & drop repository folders into this area to begin

Go to SourceTree >> Tools >> Options for setup an authenticated account.



Accounts



Edit Hosting Account

Host

Hosting Service: GitHub

Host URL: https://github.com/

Preferred Protocol: HTTPS

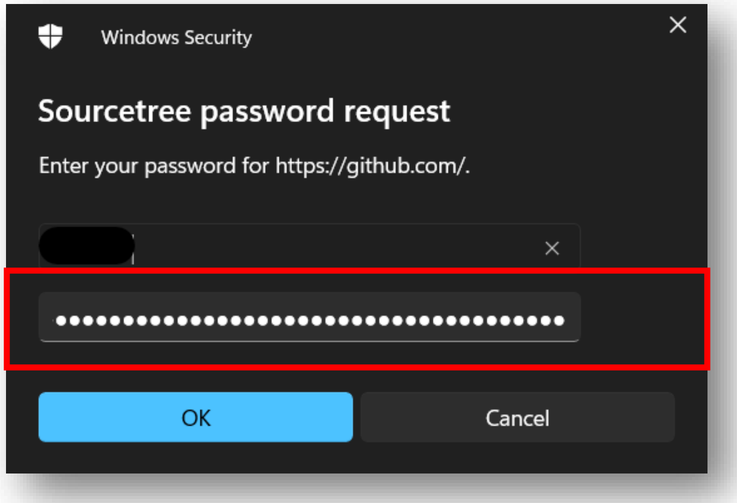
Credentials

Authentication: Basic

Username: GitHub Username

Make sure follow all the setting as shown at the above image. The GitHub Username can be found at registered GitHub account.

After finish, click the Refresh Password for next step.



Windows Security

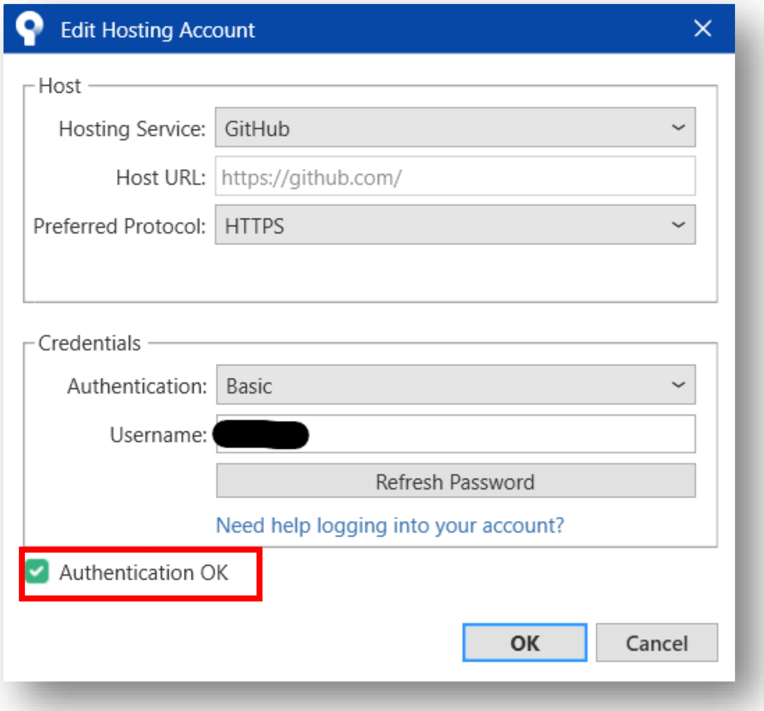
Sourcetree password request

Enter your password for https://github.com/.

[redacted]

••

It will prompt a window to insert password, paste the Personal Access Token created recently in GitHub.



Edit Hosting Account

Host

Hosting Service: GitHub

Host URL: https://github.com/

Preferred Protocol: HTTPS

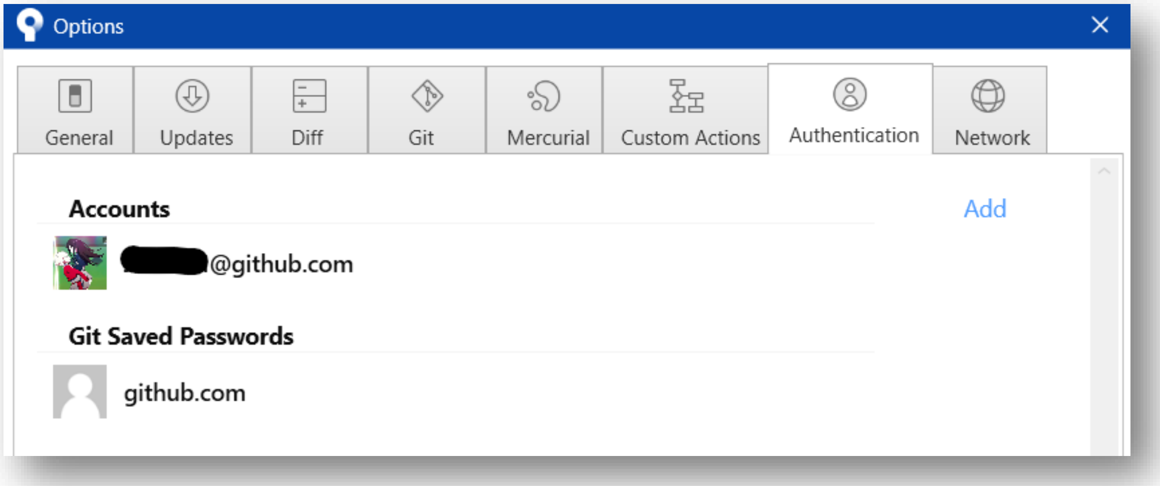
Credentials

Authentication: Basic

Username: [redacted]

☑ Authentication OK

After success, the window should show Authentication OK at the bottom of the setting.



Options

Accounts

[redacted]@github.com

Git Saved Passwords

github.com

In the account list should show the account added recently.

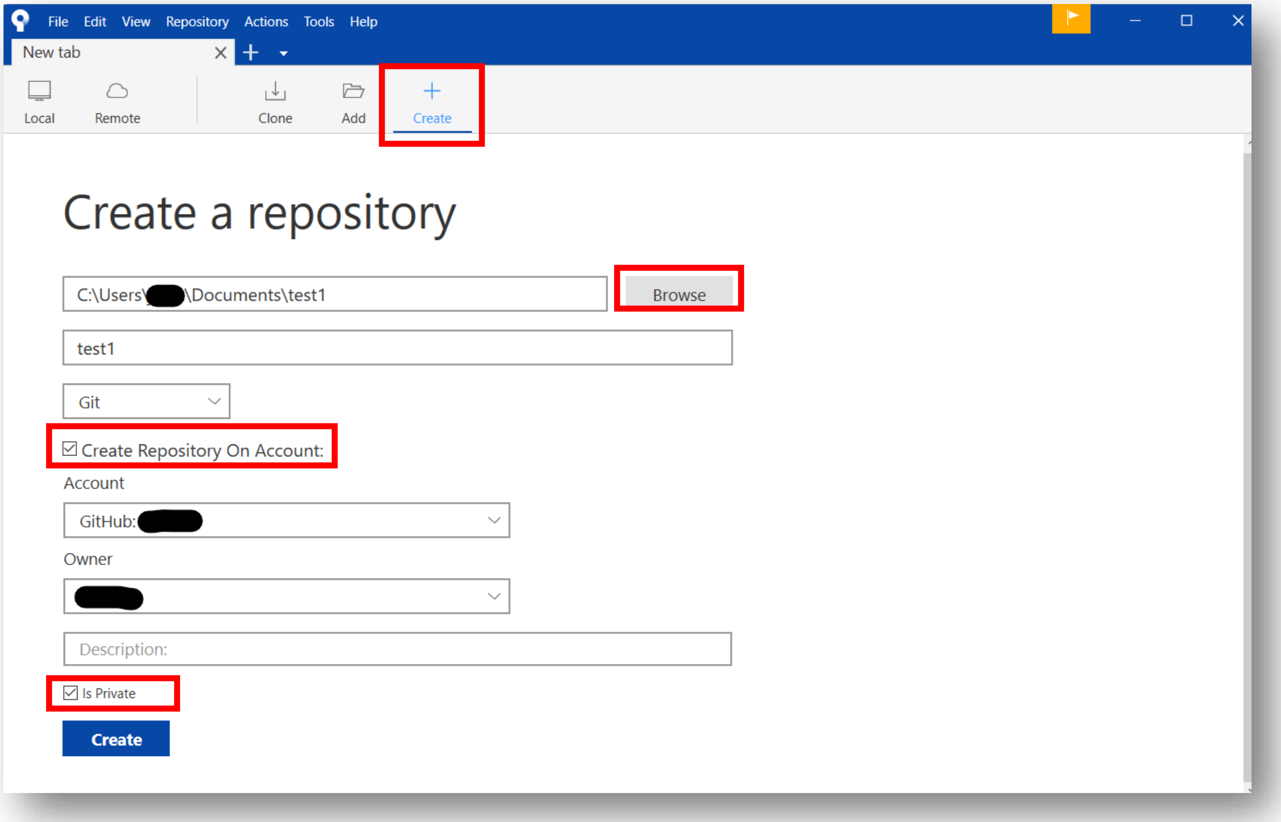
Creating Repository

There are 2 ways of creating repository,

1. Create through GitHub
2. Create through SourceTree

Choose either one to avoid duplicated folder creation.

SourceTree (Recommended)



Create a repository

C:\Users\[redacted]\Documents\test1 Browse

test1

Git

☑ Create Repository On Account:

Account

GitHub:[redacted]

Owner

[redacted]

Description:

☑ Is Private

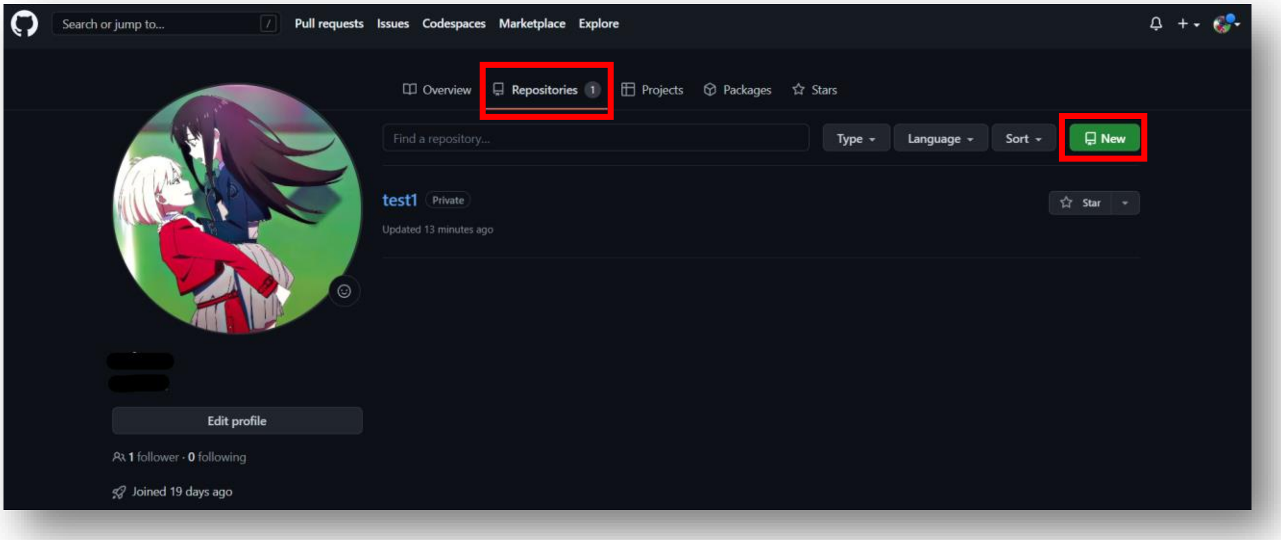
Create

Click Create for creating a repository, browse or paste the path for the folder to become local repository.

Tick the Create Repository on Account so that it will automatically create on GitHub, the account information will be able to choose based on the authenticated account registered in SourceTree.

Tick the is Private for making the repository on GitHub become private.

GitHub



[redacted]

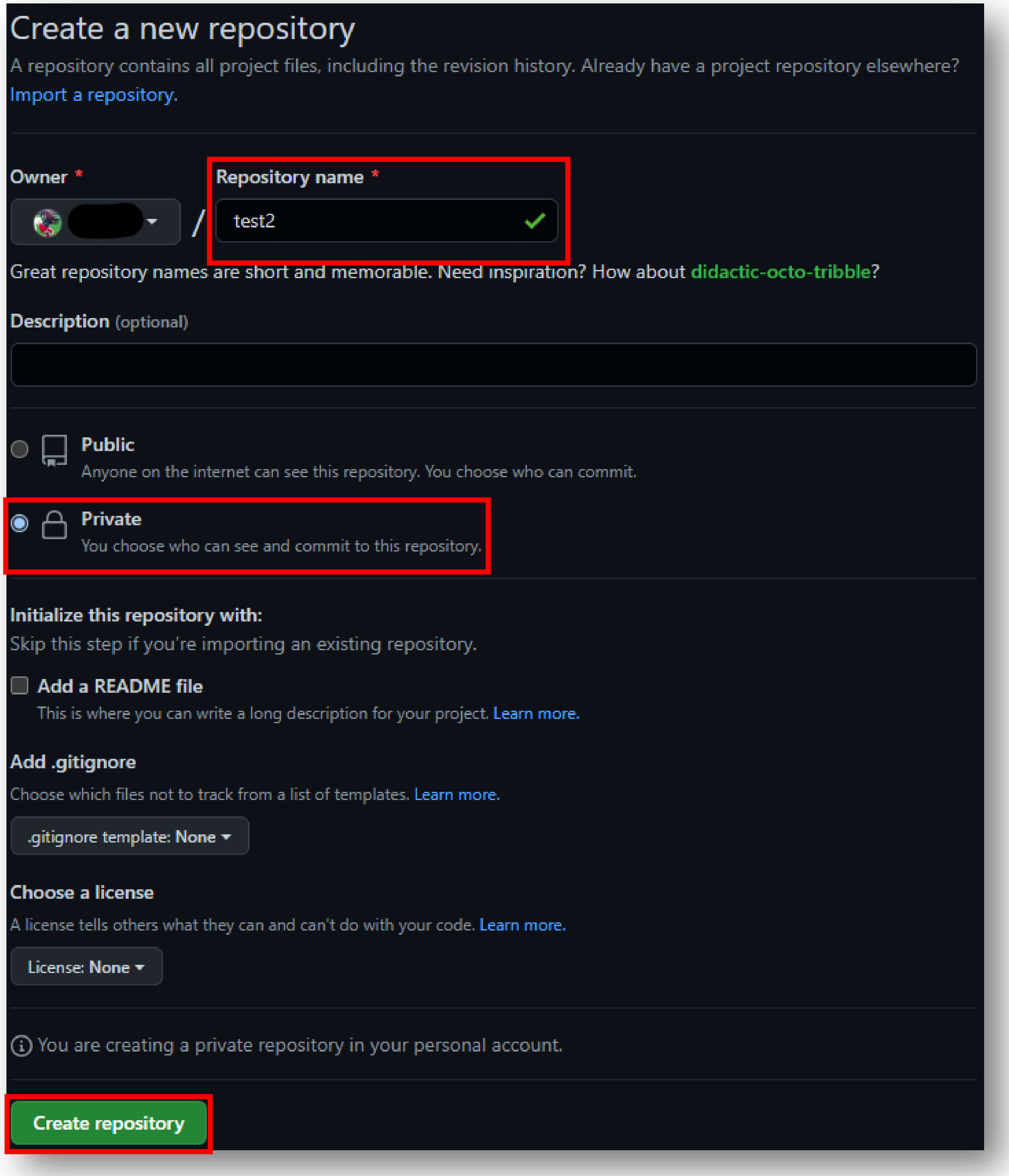
test1 Private

Updated 13 minutes ago

1 follower · 0 following

Joined 19 days ago

Go to GitHub >> Repository >> New to create new repository.



Create a new repository

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

Owner * [redacted] / Repository name * test2 ✓

Great repository names are short and memorable. Need inspiration? How about didactic-octo-tribble?

Description (optional)

○ Public
Anyone on the internet can see this repository. You choose who commits.

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

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

□ Add a README file
This is where you can write a long description for your project. Learn more.

Add .gitignore
Choose which files not to track from a list of templates. Learn more.

.gitignore template: None

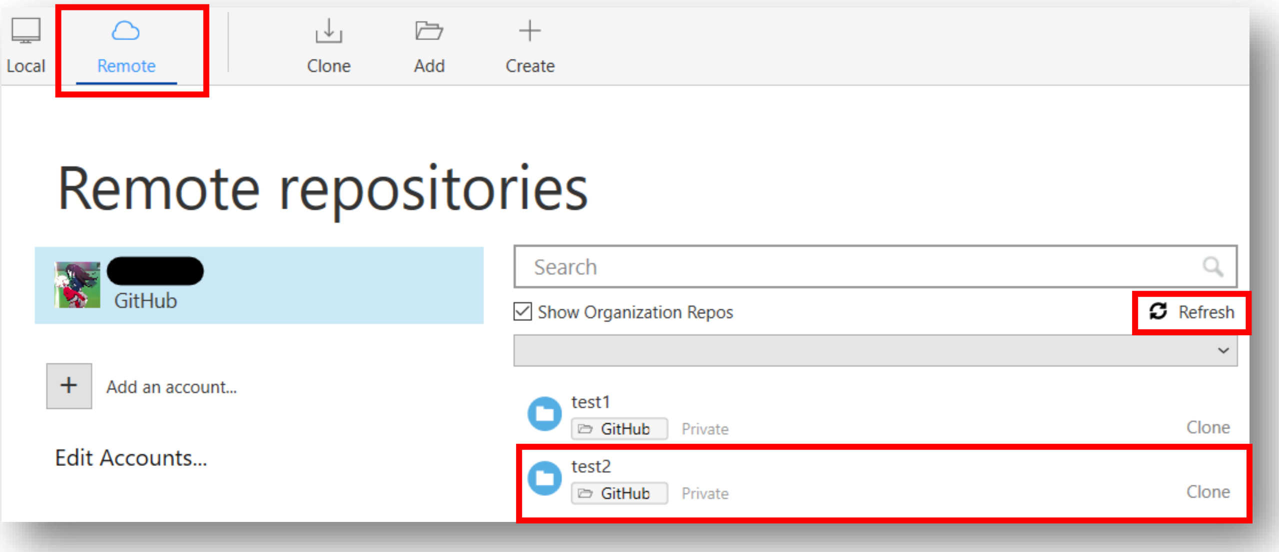
Choose a license
A license tells others what they can and can't do with your code. Learn more.

License: None

ⓘ You are creating a private repository in your personal account.

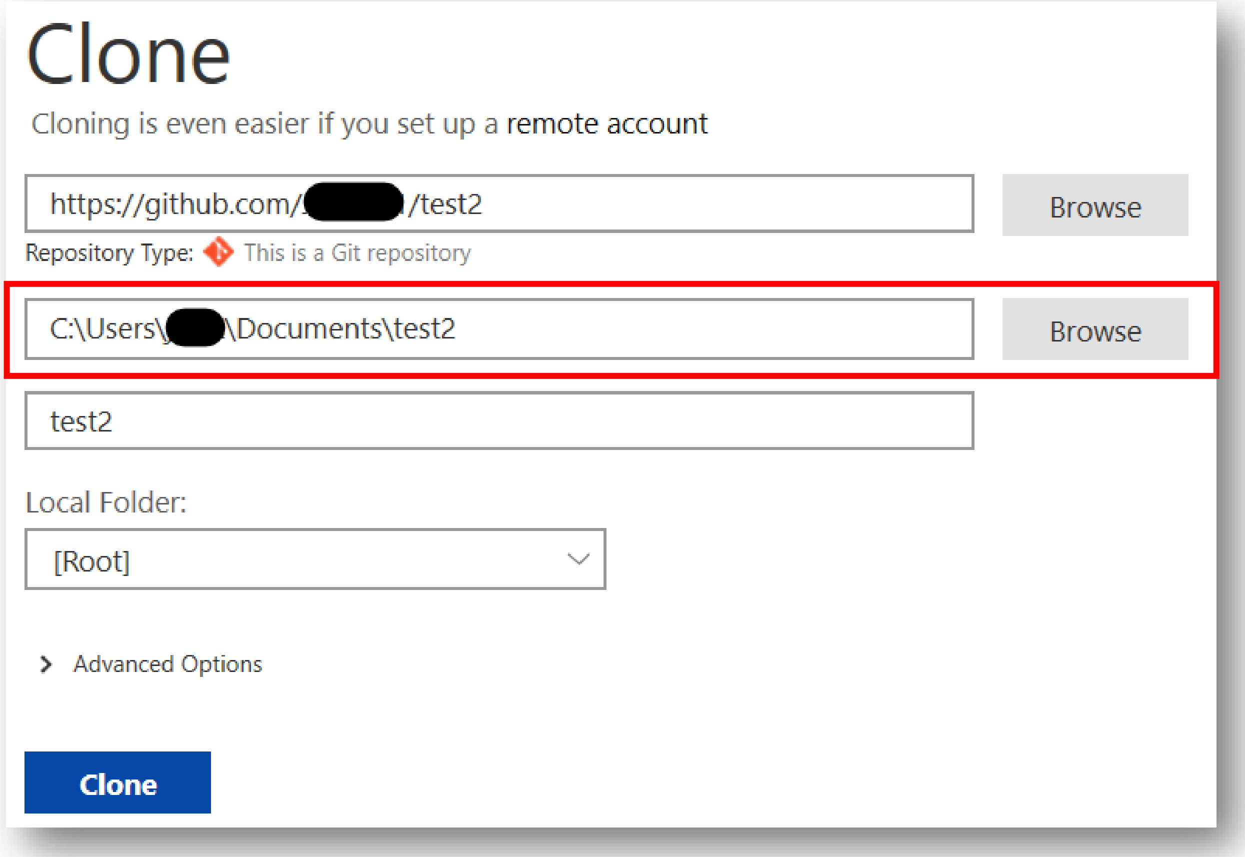
Key in the Repository Name and choose either Private or Public.

After done editing, click Create repository.



Go to SourceTree’s Remote and choose the repository to be clone. Click the Clone at the bottom right side of the file to clone it into device’s local repository.

If the repository didn’t show. Click the refresh and check again.



Clone

Cloning is even easier if you set up a remote account

https://github.com/[redacted]/test2

Repository Type: This is a Git repository

C:\Users\[redacted]\Documents\test2

test2

Local Folder: [Root]

The box will automatically fill, and the default path also will be set. User can choose to change the directory by key in the directory path.

Flow of Version Control

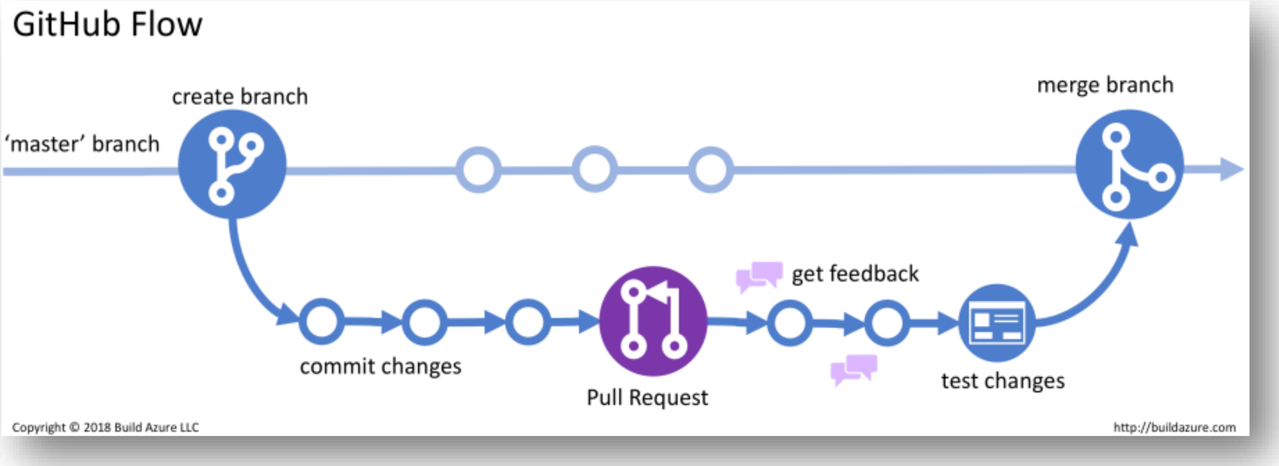
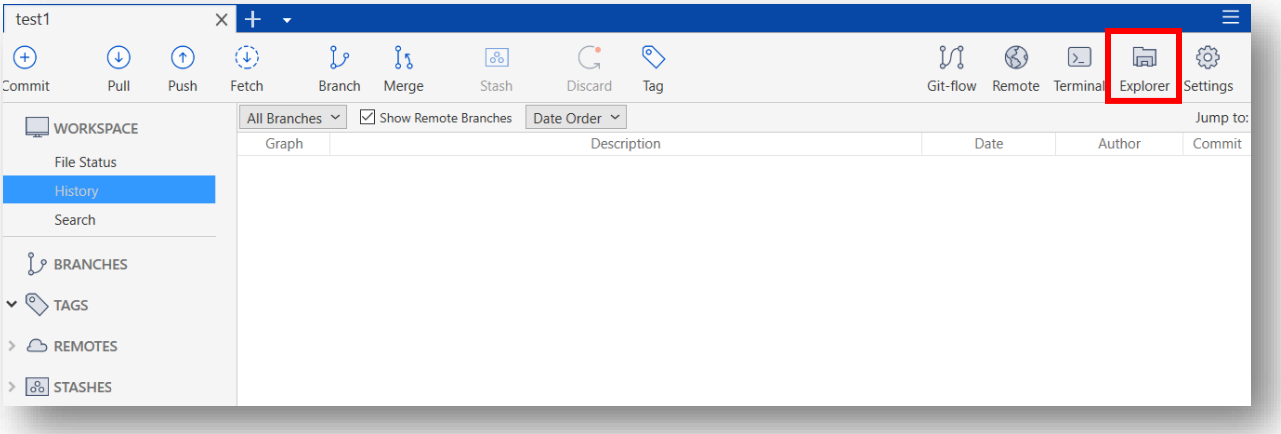
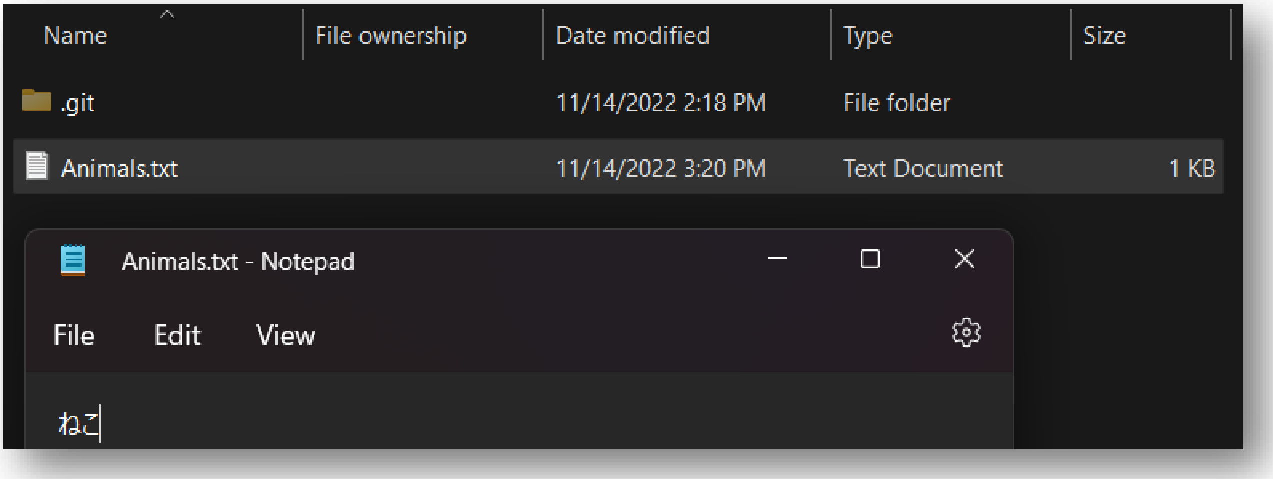


Figure above show the overall flow of version controlling.

Commit



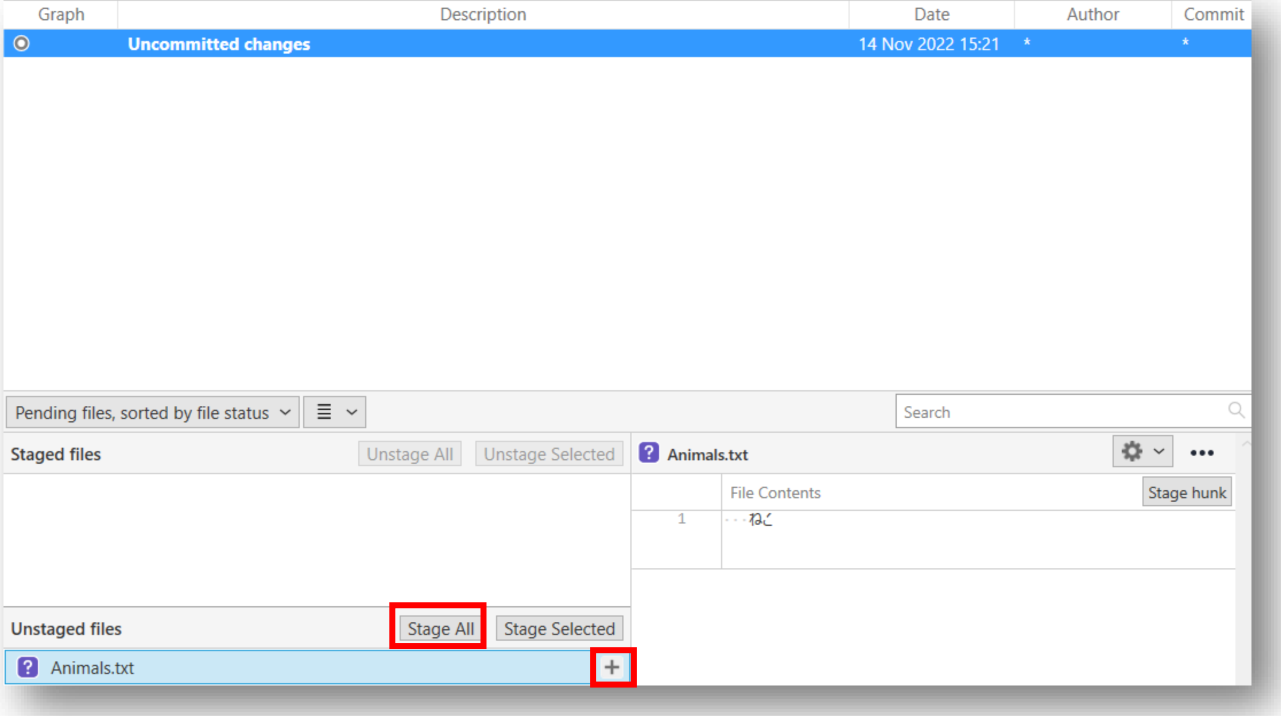
Open explorer and add some content inside the local repository.



Name	File ownership	Date modified	Type	Size
.git		11/14/2022 2:18 PM	File folder	
Animals.txt		11/14/2022 3:20 PM	Text Document	1 KB

ねこ

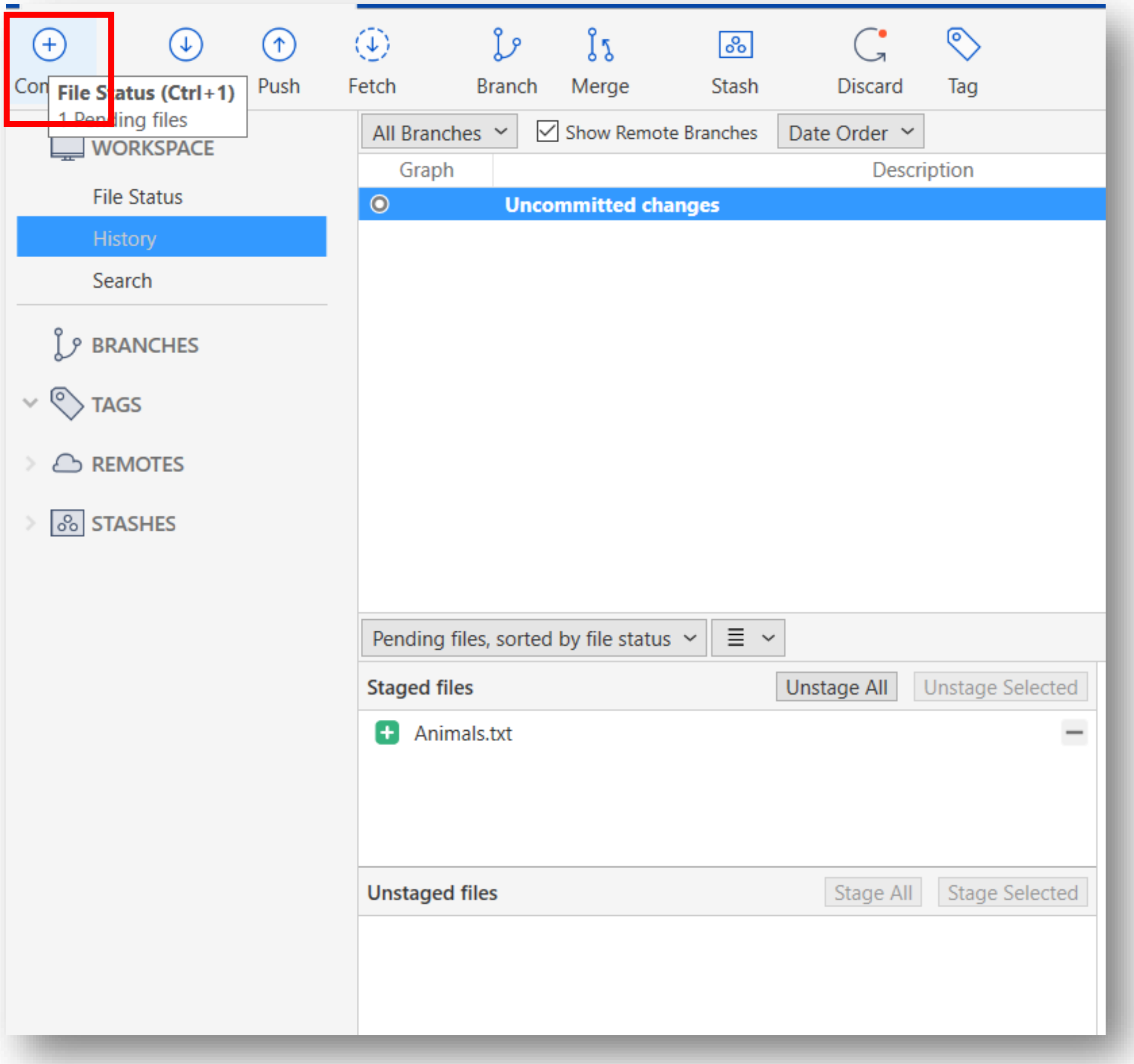
Create a new file named Animals.txt and add 'cat' inside it.



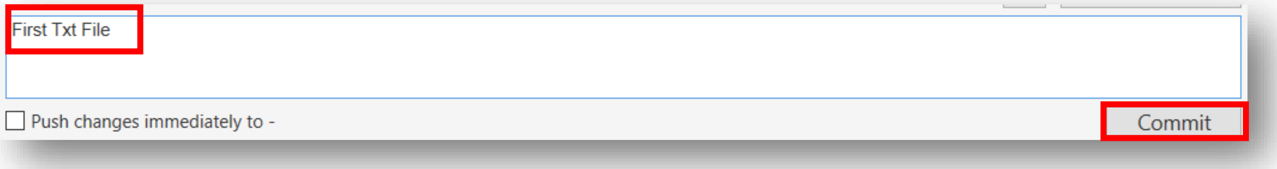
Graph	Description	Date	Author	Commit
○	Uncommitted changes	14 Nov 2022 15:21	*	*

```
1 ねこ
```

Go back to SourceTree and click Stage All or click the '+' symbol to stage specific files.

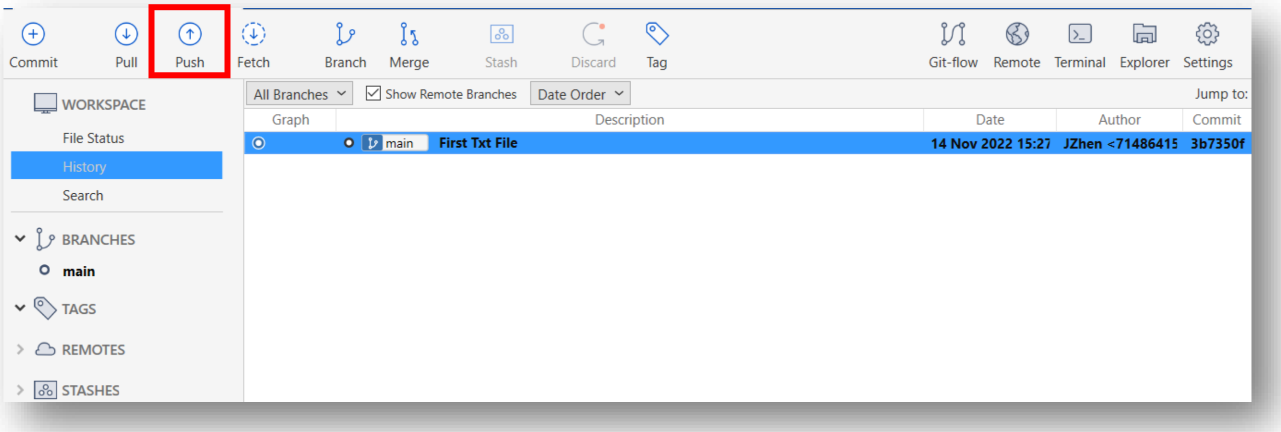


Click commit button to commit staged files.



Add a note for the commit change.

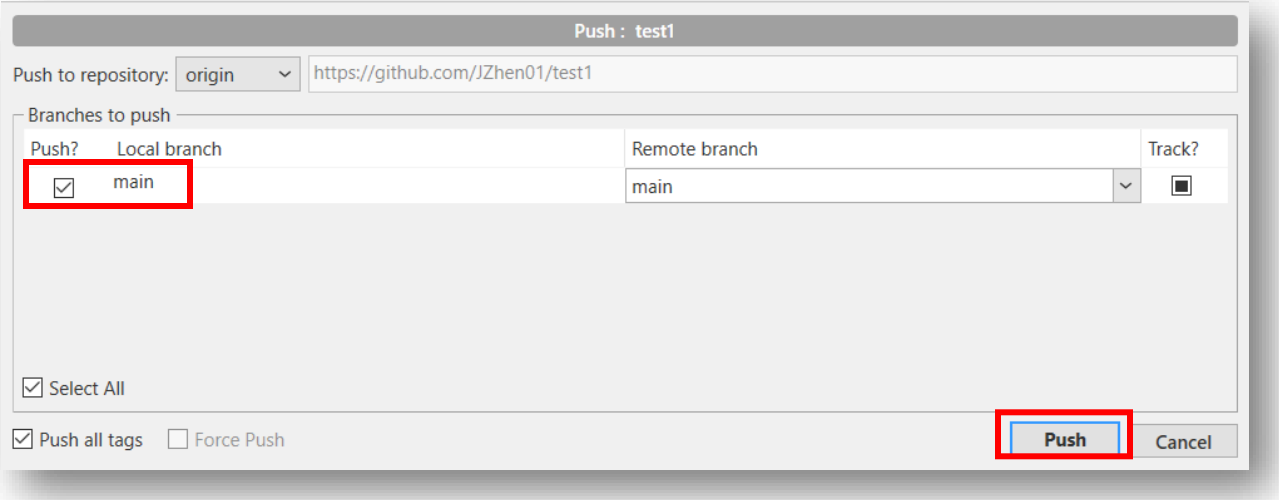
Push



☑ Show Remote Branches

Graph	Description	Date	Author	Commit
○	main First Txt File	14 Nov 2022 15:27	JZhen <71486415	3b7350f

Click the Push button to push the local repository changes to remote repository.


Push : test1

Push to repository: origin https://github.com/JZhen01/test1

Branches to push

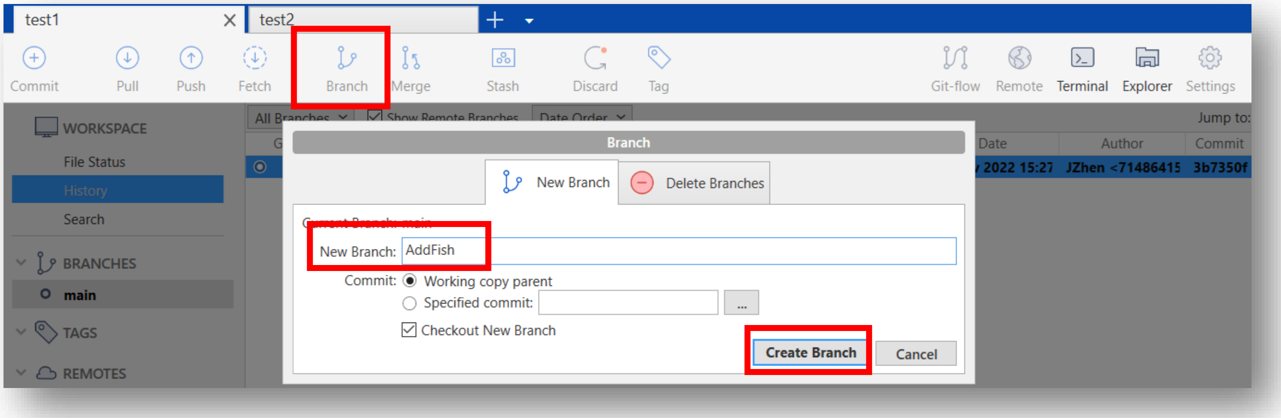
Push?	Local branch	Remote branch	Track?
☑	main	main	■

☑ Select All

☑ Push all tags □ Force Push

Choose which local branch to be pushed to remote repository.

Branch



2022 15:27 JZhen <71486415 3b7350f

Branch

Current Branch: main

New Branch: AddFish

Commit: ● Working copy parent

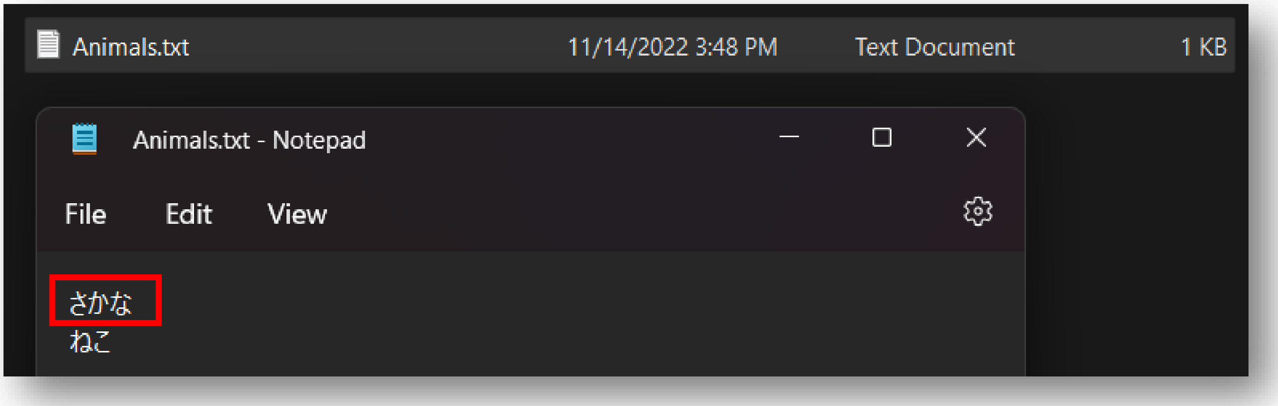
○ Specified commit: ...

☑ Checkout New Branch

Create Branch Cancel

Click at the branch button and a window will popup.

Add a name to the branch and click create branch. It will automatically checkout to AddFish branch because the checkout new branch has been ticked.

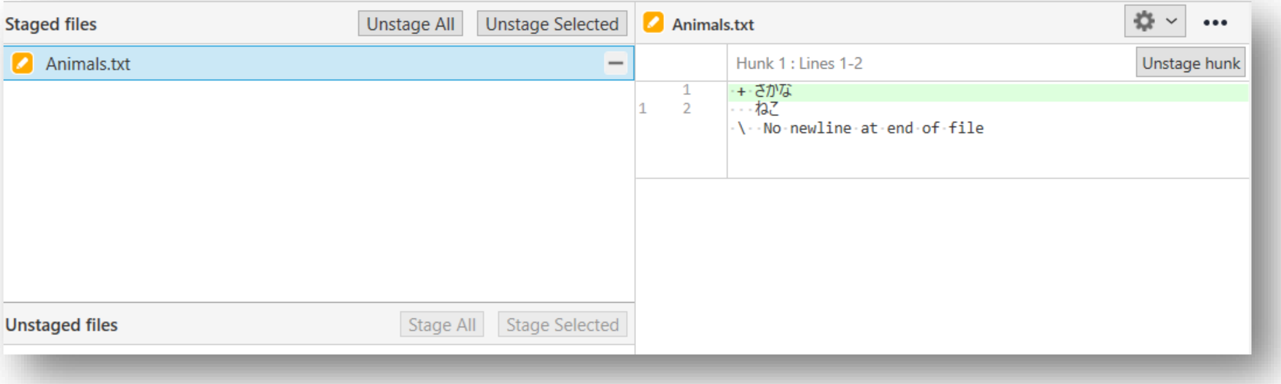


Animals.txt 11/14/2022 3:48 PM Text Document 1 KB

Animals.txt - Notepad

さかな
ねこ

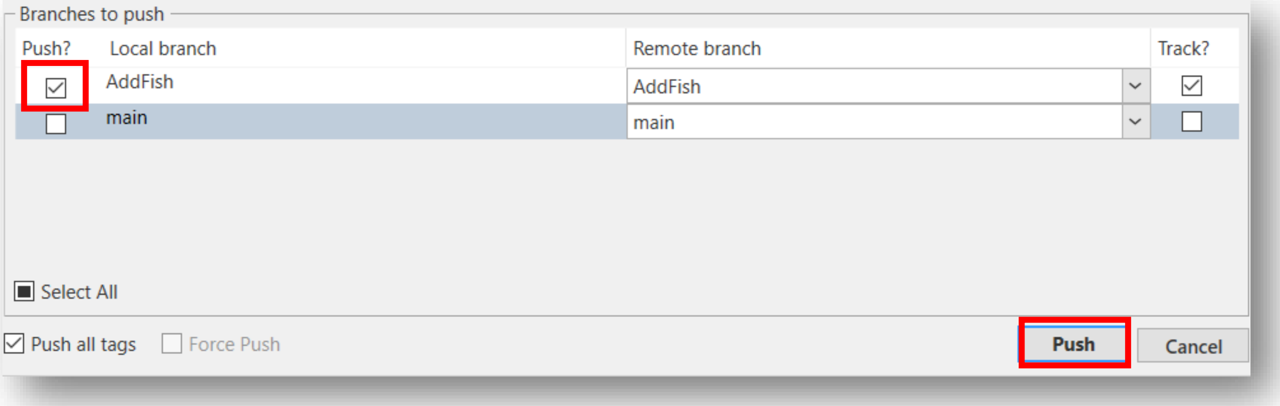
Add ‘fish’ at the first line of the Animals.txt file and commit it.



Animals.txt

Hunk 1 : Lines 1-2

```
   1  + さかな
1  2    ねこ
      \ No newline at end of file
```



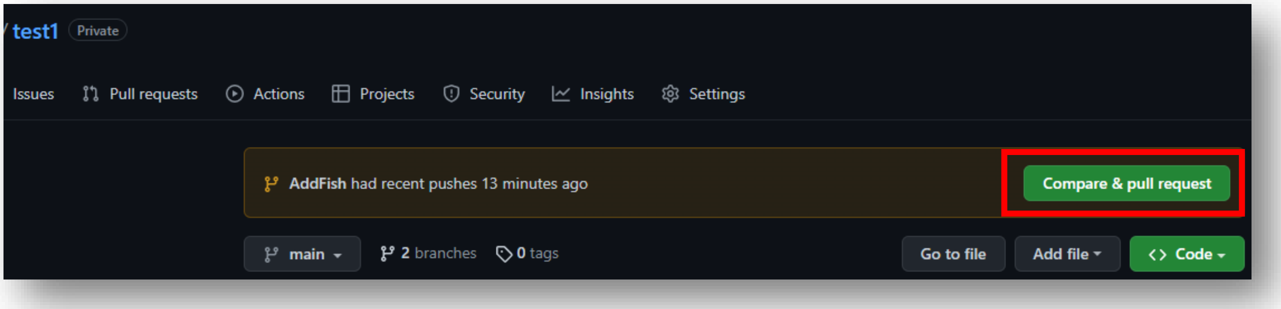
Push?	Local branch	Remote branch	Track?
☑	AddFish	AddFish	☑
□	main	main	□

■ Select All

☑ Push all tags □ Force Push

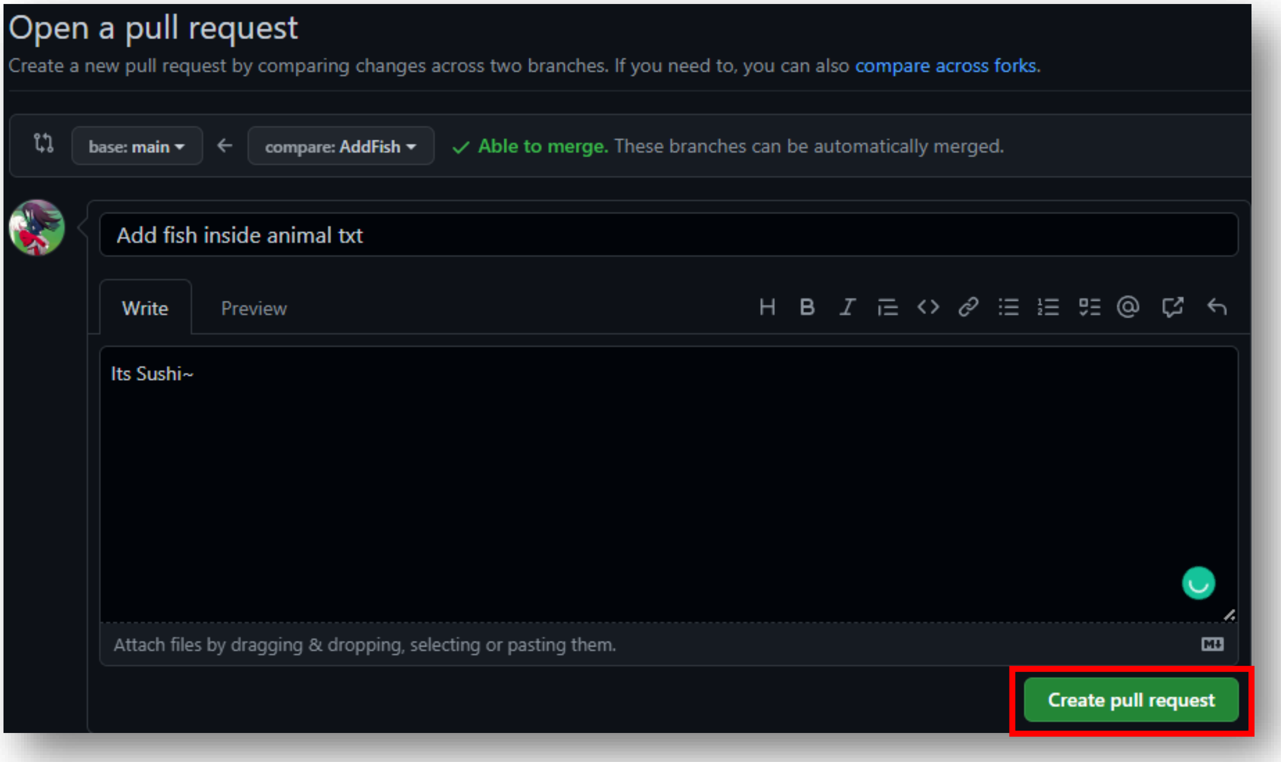
Push the AddFish branch to the remote repository and wait for approval. (Pull Request)

Merge



AddFish had recent pushes 13 minutes ago

At GitHub repository, click Compare & pull request to check the merging possibility of merging together the recently pushed branch.



Open a pull request

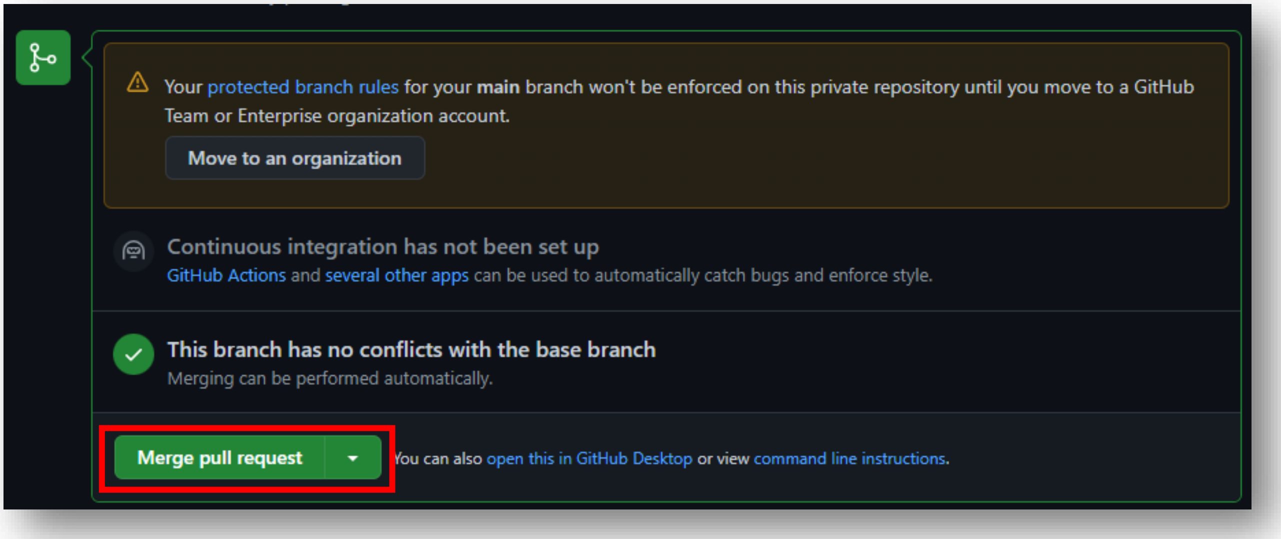
Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks.

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

Add fish inside animal txt

Its Sushi~

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



⚠ Your protected branch rules for your main branch won't be enforced on this private repository until you move to a GitHub Team or Enterprise organization account.

Move to an organization

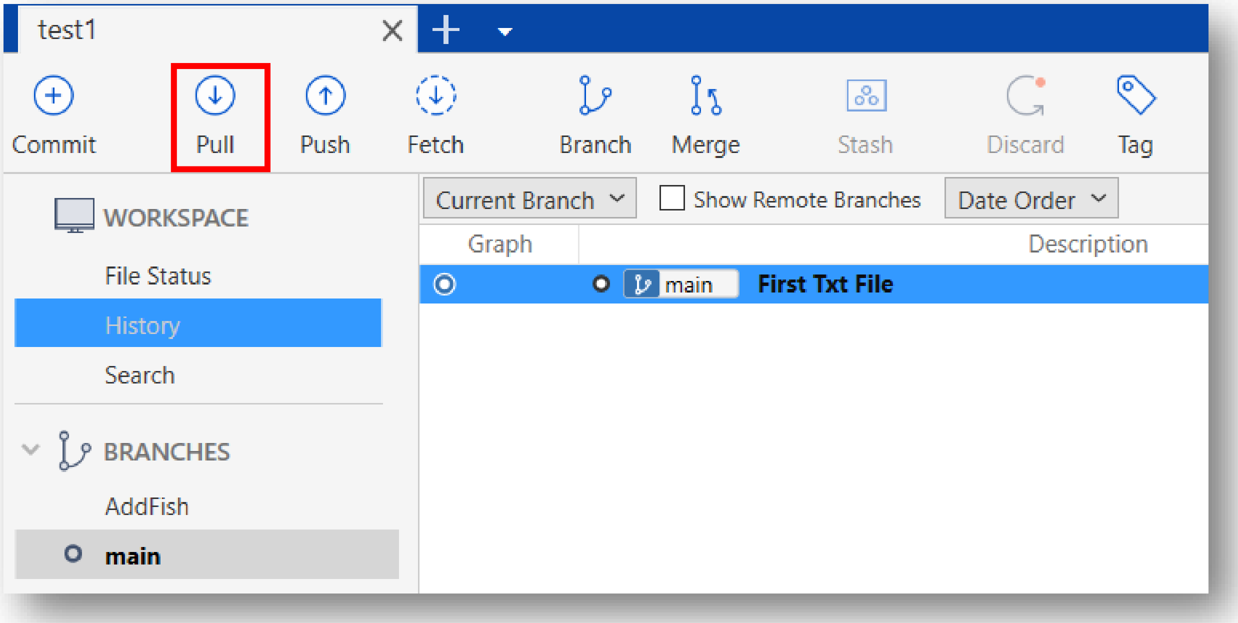
Continuous integration has not been set up
GitHub Actions and several other apps can be used to automatically catch bugs and enforce style.

This branch has no conflicts with the base branch
Merging can be performed automatically.

Merge pull request ▾ You can also open this in GitHub Desktop or view command line instructions.

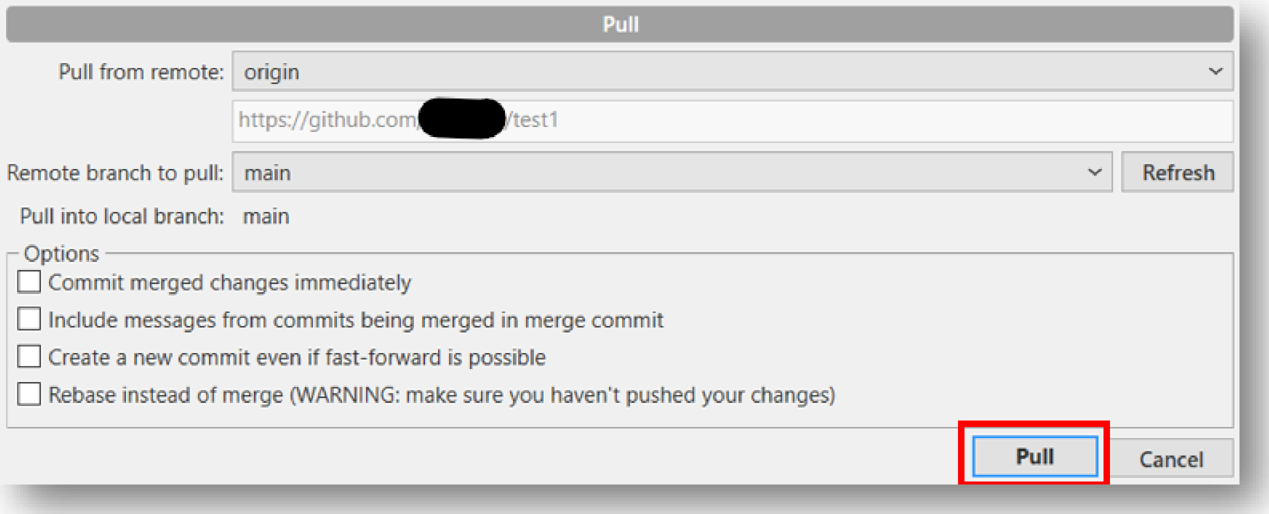
If there's no conflicts, proceed to click the Merge pull request and it will merge automatically to the main branch at the remote repository.

Pull



Graph	Description
○	main First Txt File

Click Pull button from SourceTree main branch.



Pull

Pull from remote: origin

https://github.com/[redacted]/test1

Remote branch to pull: main

Pull into local branch: main

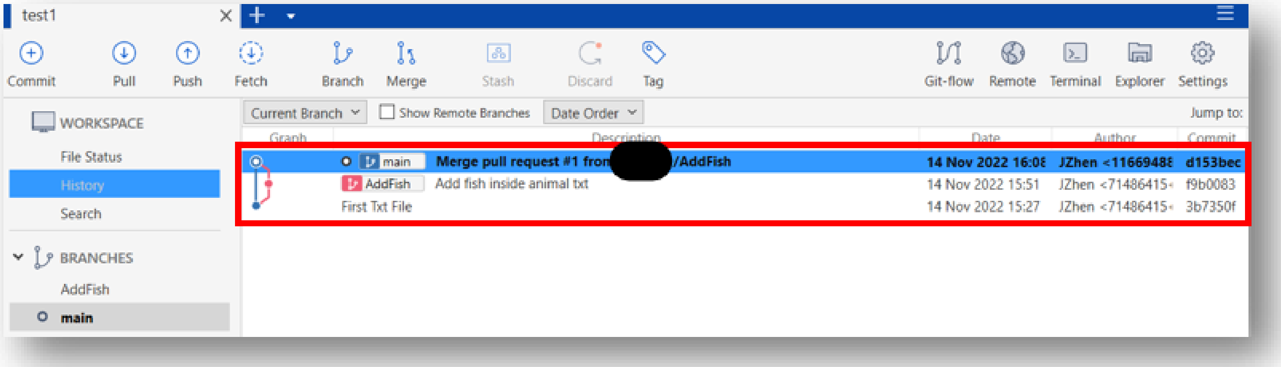
Options

□ Commit merged changes immediately

□ Include messages from commits being merged in merge commit

□ Create a new commit even if fast-forward is possible

□ Rebase instead of merge (WARNING: make sure you haven't pushed your changes)

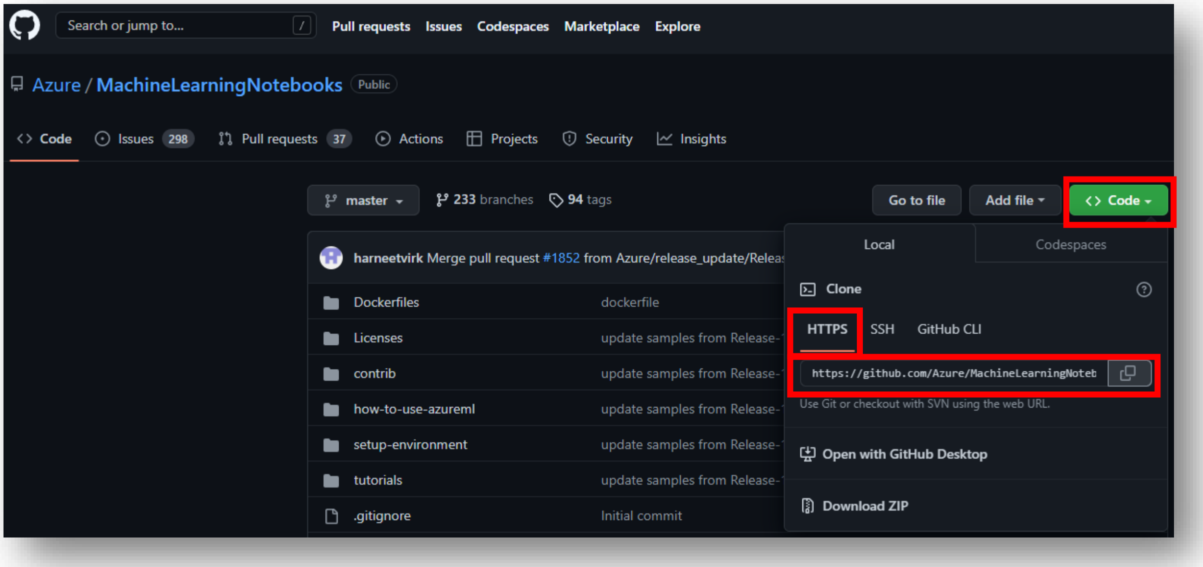


Current Branch □ Show Remote Branches Date Order

Graph	Description	Date	Author	Commit
	main Merge pull request #1 from [redacted]/AddFish	14 Nov 2022 16:0ε	JZhen <1166948ε	d153bec
	AddFish Add fish inside animal txt	14 Nov 2022 15:51	JZhen <71486415‹	f9b0083
	First Txt File	14 Nov 2022 15:27	JZhen <71486415‹	3b7350f

And the main branch at local repository will be update.

Clone Others Repository



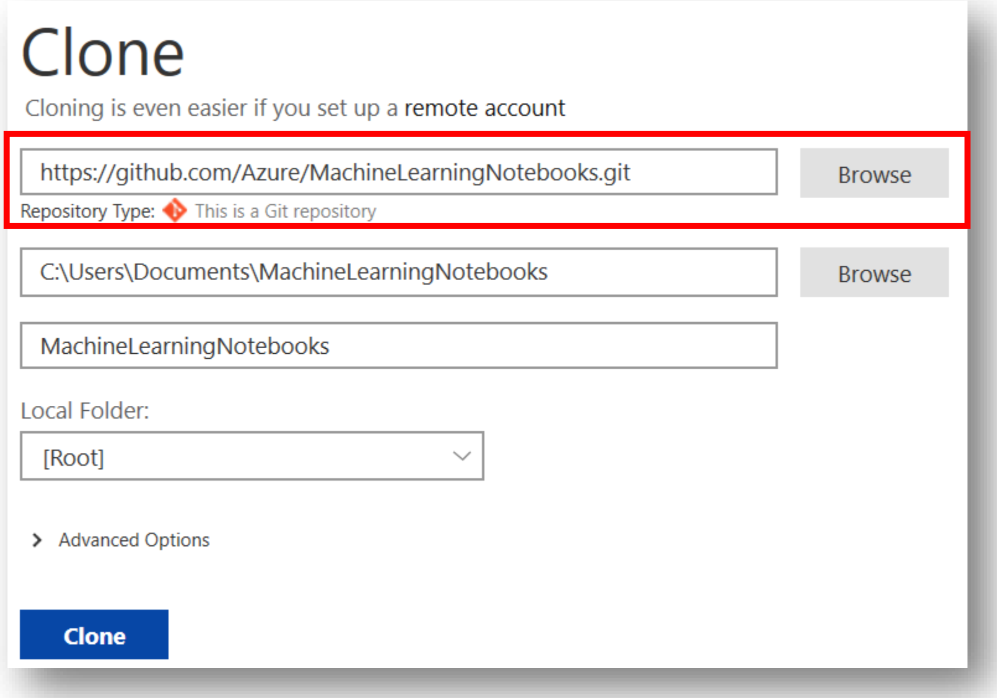
harneetvirk Merge pull request #1852 from Azure/release_update/Releas

Dockerfiles	dockerfile
Licenses	update samples from Release-
contrib	update samples from Release-
how-to-use-azureml	update samples from Release-
setup-environment	update samples from Release-
tutorials	update samples from Release-
.gitignore	Initial commit

https://github.com/Azure/MachineLearningNoteb

Use Git or checkout with SVN using the web URL.

Go to the repository that wanted to clone. Click the Code, select HTTPS and copy the URL.



Clone

Cloning is even easier if you set up a remote account

https://github.com/Azure/MachineLearningNotebooks.git

Repository Type: This is a Git repository

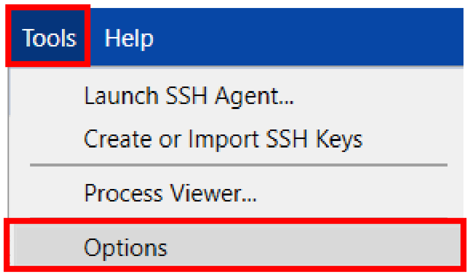
C:\Users\Documents\MachineLearningNotebooks

MachineLearningNotebooks

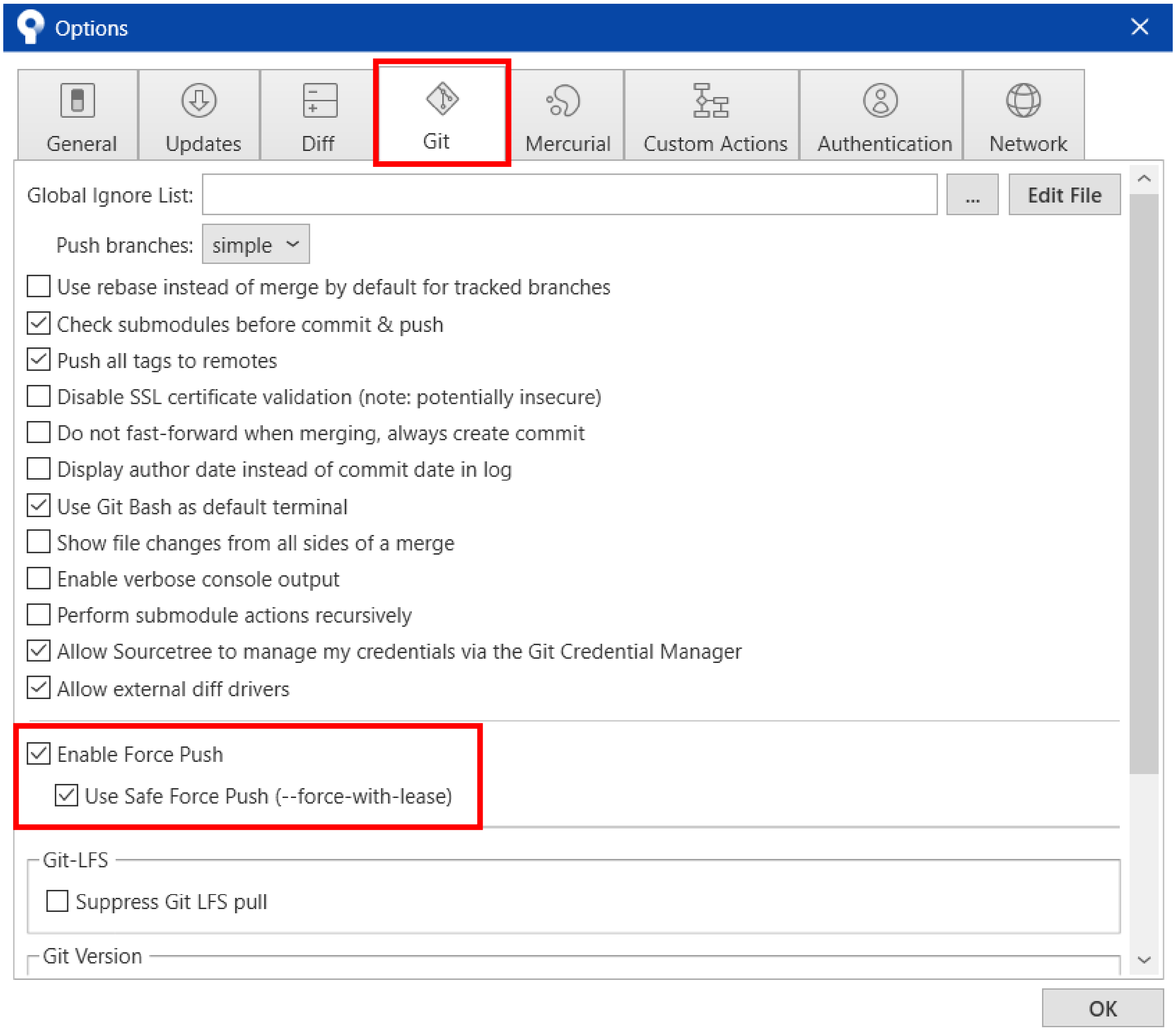
Local Folder: [Root]

Paste the URL at the first box and click Clone to clone the repository.

Reset



Before start reset the commit, we need to enable some setting. Go to Tools >> Options.



Global Ignore List:

Push branches: simple

☐ Use rebase instead of merge by default for tracked branches

☑ Check submodules before commit & push

☑ Push all tags to remotes

☐ Disable SSL certificate validation (note: potentially insecure)

☐ Do not fast-forward when merging, always create commit

☐ Display author date instead of commit date in log

☑ Use Git Bash as default terminal

☐ Show file changes from all sides of a merge

☐ Enable verbose console output

☐ Perform submodule actions recursively

☑ Allow Sourcetree to manage my credentials via the Git Credential Manager

☑ Allow external diff drivers

☑ Enable Force Push

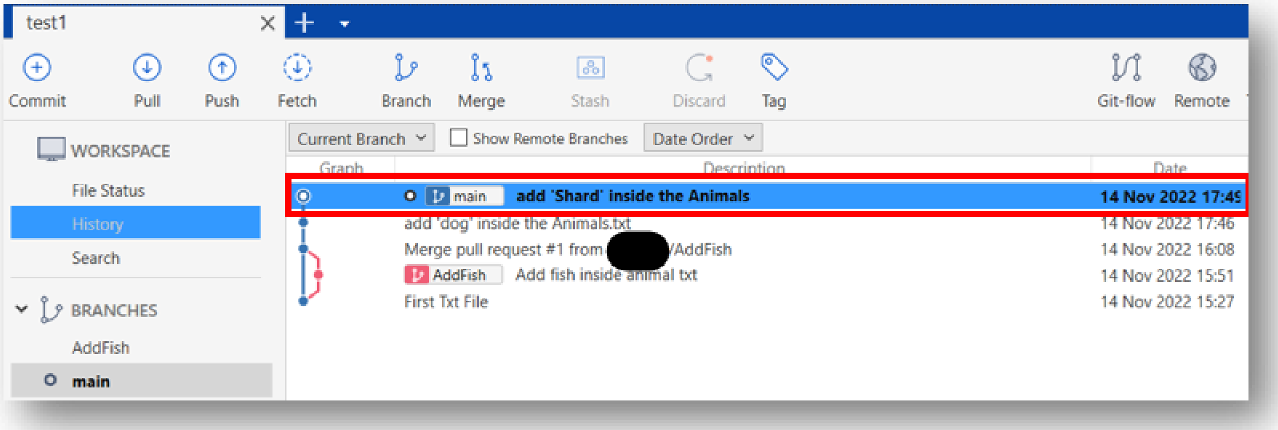
☑ Use Safe Force Push (--force-with-lease)

Git-LFS

☐ Suppress Git LFS pull

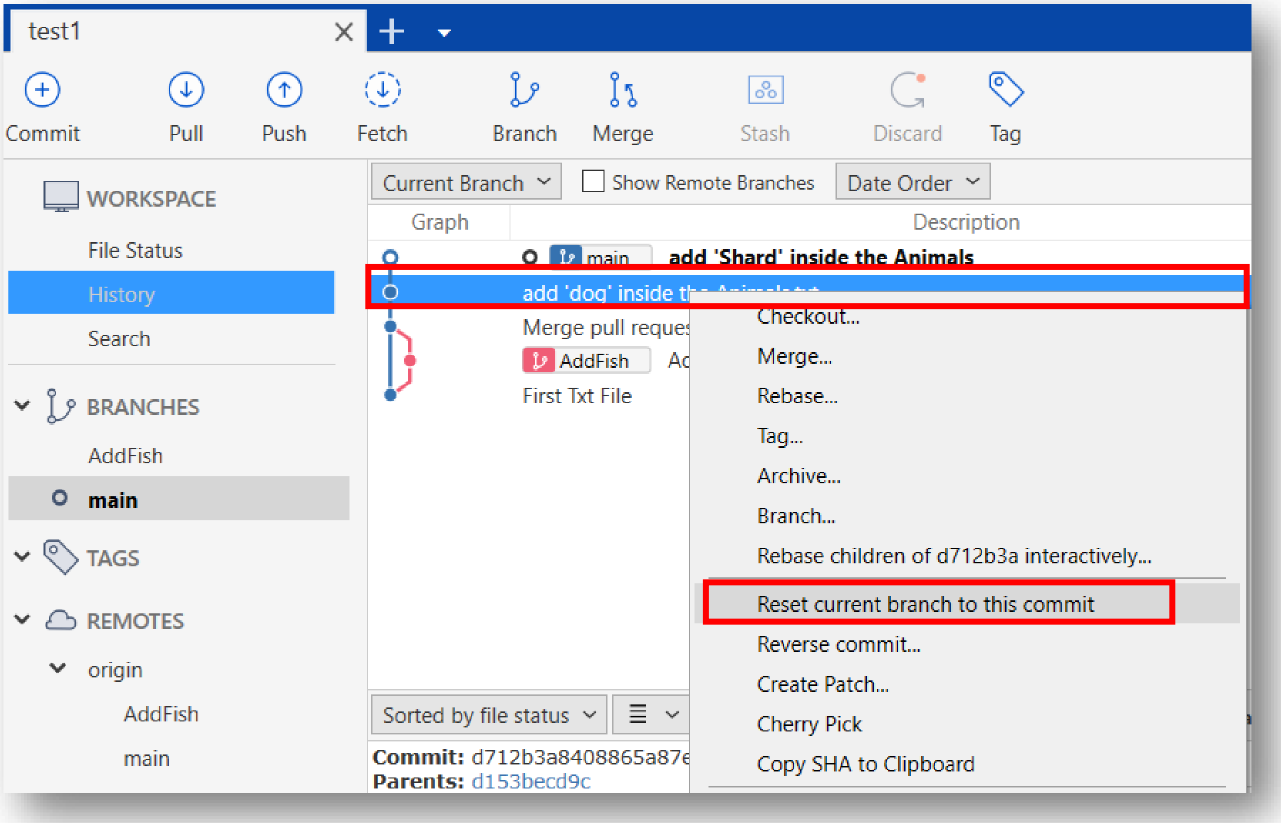
Git Version

Go to Git and enable the Force Push option.



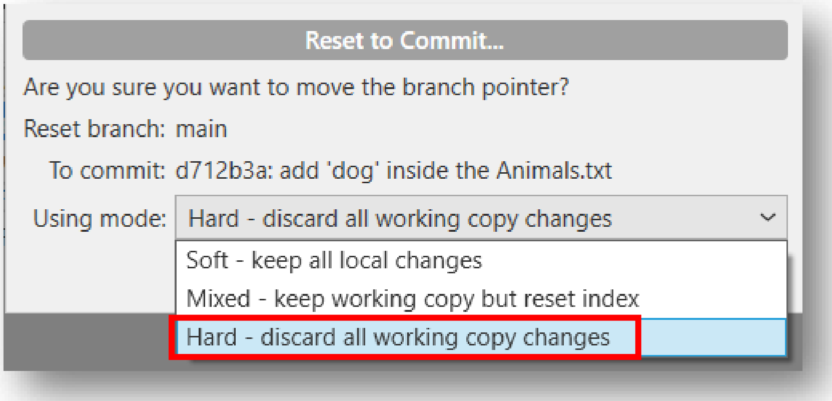
Description	Date
main add 'Shard' inside the Animals	14 Nov 2022 17:49
add 'dog' inside the Animals.txt	14 Nov 2022 17:46
Merge pull request #1 from [redacted]/AddFish	14 Nov 2022 16:08
AddFish Add fish inside animal txt	14 Nov 2022 15:51
First Txt File	14 Nov 2022 15:27

When we found shard was too dangerous and wanted to reset back to previous version.



Commit: d712b3a8408865a87e
Parents: d153becd9c

Right click the commits wanted and click on the reset current branch to this commit.



Reset to Commit...

Are you sure you want to move the branch pointer?

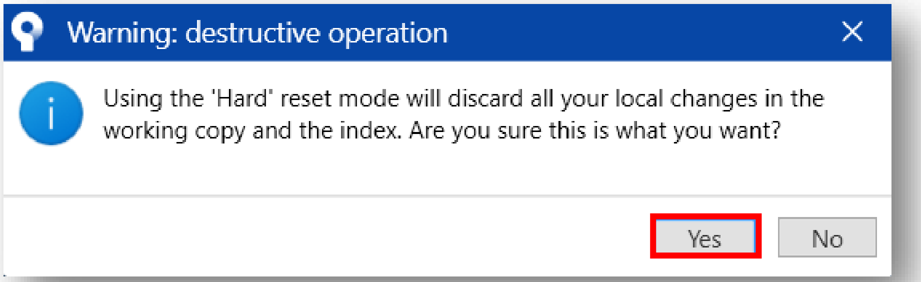
Reset branch: main

To commit: d712b3a: add 'dog' inside the Animals.txt

Using mode: Hard - discard all working copy changes

Soft - keep all local changes
Mixed - keep working copy but reset index
Hard - discard all working copy changes

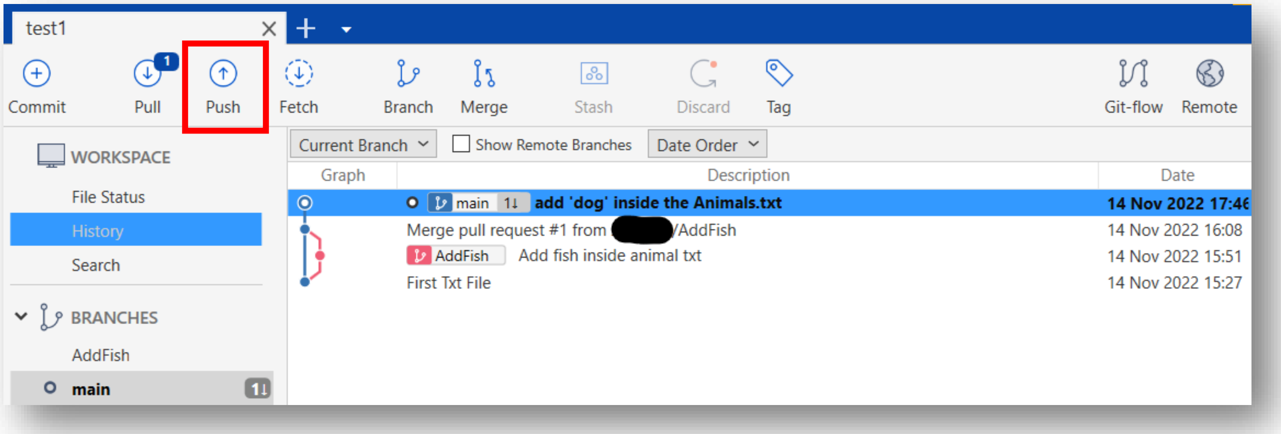
Choose the Hard – Reset



Warning: destructive operation

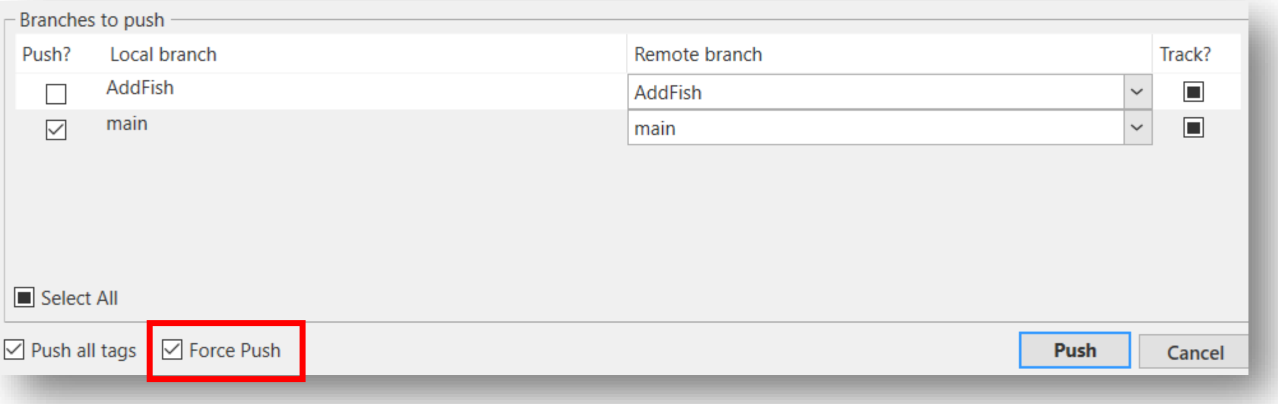
Using the 'Hard' reset mode will discard all your local changes in the working copy and the index. Are you sure this is what you want?

Click Yes to proceed.



Graph	Description	Date
	main 1↓ add 'dog' inside the Animals.txt	14 Nov 2022 17:46
	Merge pull request #1 from [redacted]/AddFish	14 Nov 2022 16:08
	AddFish Add fish inside animal txt	14 Nov 2022 15:51
	First Txt File	14 Nov 2022 15:27

Click Push for pushing the local repository to remote repository.



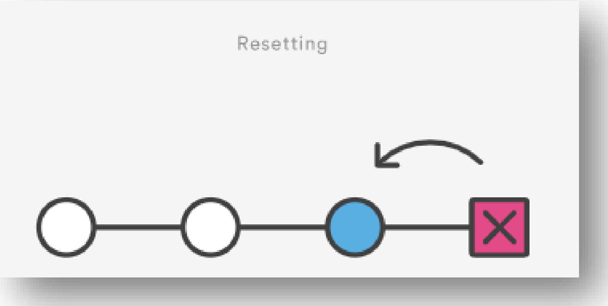
Branches to push

Push?	Local branch	Remote branch	Track?
☐	AddFish	AddFish	■
☑	main	main	■

■ Select All

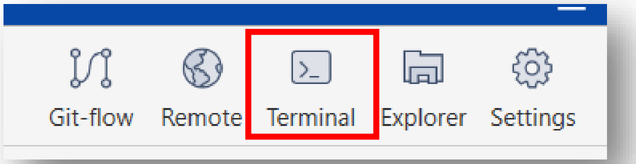
☑ Push all tags ☑ Force Push

Remember to tick the Force Push before pushing.

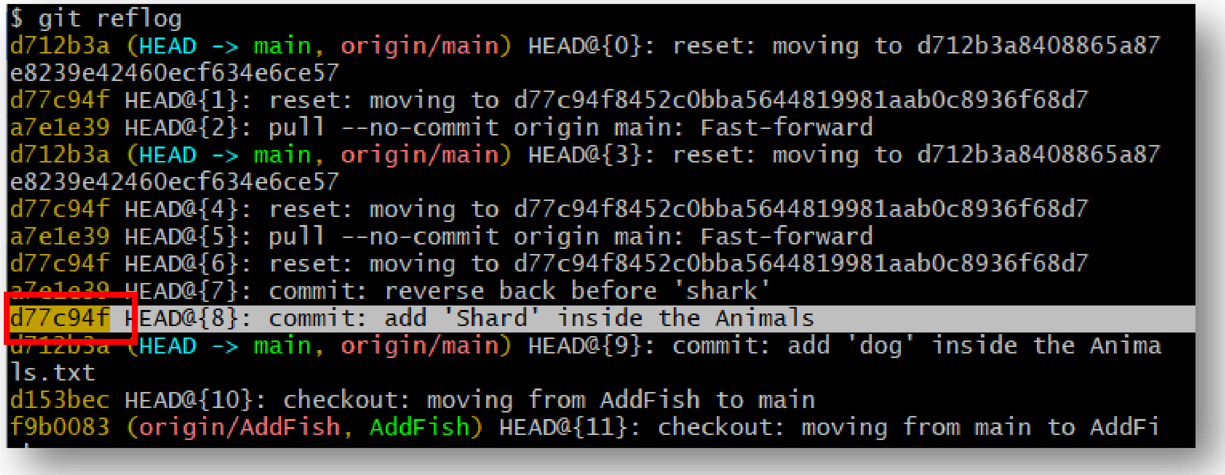


Reflog (Reference Log)

When we found that Shark was actually cute and want it back.

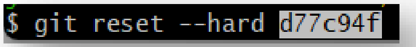


Go to Terminal at the top right side.



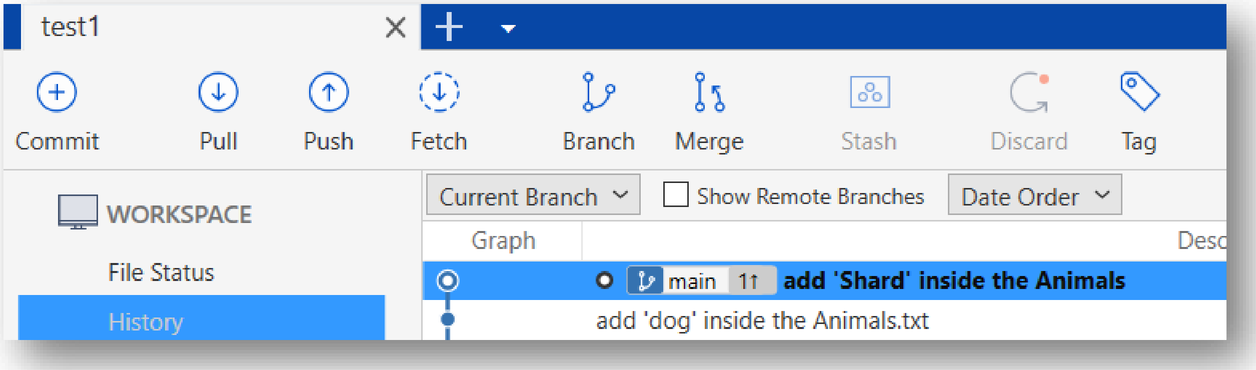
```
$ git reflog
d712b3a (HEAD -> main, origin/main) HEAD@{0}: reset: moving to d712b3a8408865a87
e8239e42460ecf634e6ce57
d77c94f HEAD@{1}: reset: moving to d77c94f8452c0bba5644819981aab0c8936f68d7
a7e1e39 HEAD@{2}: pull --no-commit origin main: Fast-forward
d712b3a (HEAD -> main, origin/main) HEAD@{3}: reset: moving to d712b3a8408865a87
e8239e42460ecf634e6ce57
d77c94f HEAD@{4}: reset: moving to d77c94f8452c0bba5644819981aab0c8936f68d7
a7e1e39 HEAD@{5}: pull --no-commit origin main: Fast-forward
d77c94f HEAD@{6}: reset: moving to d77c94f8452c0bba5644819981aab0c8936f68d7
a7e1e39 HEAD@{7}: commit: reverse back before 'shark'
d77c94f HEAD@{8}: commit: add 'Shard' inside the Animals
d712b3a (HEAD -> main, origin/main) HEAD@{9}: commit: add 'dog' inside the Anima
ls.txt
d153bec HEAD@{10}: checkout: moving from AddFish to main
f9b0083 (origin/AddFish, AddFish) HEAD@{11}: checkout: moving from main to AddFi
```

Use command ‘git reflog’ to view the history, search for the commit that we want.



```
$ git reset --hard d77c94f
```

Use the command ‘git reset --hard <<the index of the commit>> to point back to the commit.



□ Show Remote Branches

main 1↑ **add 'Shard' inside the Animals**

add 'dog' inside the Animals.txt

It update show at SourceTree (Local repository), remember to push for update it to remote repository (GitHub).