

Overview

- **Prerequisite**
 - Anaconda
 - Git
- **Setting your environment**
- **Learn to use Github classroom**

Anaconda

Anaconda Installation

<https://www.anaconda.com/download>

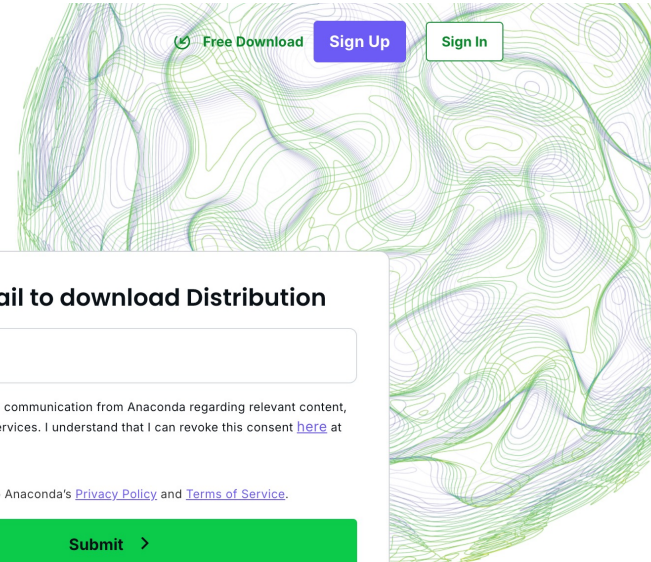
Distribution

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Register to get everything you need to get started on your workstation including Cloud Notebooks, Navigator, AI Assistant, Learning and more.

- ✓ Easily search and install thousands of data science, machine learning, and AI packages
- ✓ Manage packages and environments from a desktop application or work from the command line
- ✓ Deploy across hardware and software platforms
- ✓ Distribution installation on Windows, MacOS, or Linux

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Anaconda Installation

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Download Distribution by choosing the proper installer for your machine.



Anaconda Installers



Windows

Python 3.12

↓ 64-Bit Graphical Installer (912.3M)



Mac

Python 3.12

↓ 64-Bit (Apple silicon) Graphical Installer (704.7M)

↓ 64-Bit (Apple silicon) Command Line Installer (707.3M)

↓ 64-Bit (Intel chip) Graphical Installer (734.7M)

↓ 64-Bit (Intel chip) Command Line Installer (731.2M)



Linux

Python 3.12

↓ 64-Bit (x86) Installer (1007.9M)

↓ 64-Bit (AWS Graviton2 / ARM64) Installer (800.6M)

↓ 64-bit (Linux on IBM Z & LinuxONE) Installer (425.8M)

Anaconda Installation (Command Line)

```
smann@SympathischManndeMacBook-Pro Downloads % bash Anaconda3-2024.06-1-MacOSX-arm64.sh
```

```
Welcome to Anaconda3 2024.06-1
```

```
In order to continue the installation process, please review the license agreement.
```

```
Please, press ENTER to continue
```

```
>>>
```

← ctrl + c to escape license

```
fy, copy or create derivative works of the Offerings or any part, feature, function or user interface thereof except then solely to the extent that, such activity is required to be permitted under applicable law; (g) Copy Content as permitted herein or in an Order, a Custom Agreement or the Documentation or republish any material portion of offering in a manner competitive with the offering by Anaconda, including republication on another website or redistribute or embed any or all Offerings in a commercial product for redistribution or resale; (h) Frame or Mirror any party Content or Offerings, except if and to the extent permitted in an applicable Custom Agreement or Order for your
```

```
Do you accept the license terms? [yes|no]
```

```
>>> yes
```

```
Anaconda3 will now be installed into this location:  
/Users/smann/anaconda3
```

- Press ENTER to confirm the location
- Press CTRL-C to abort the installation
- Or specify a different location below

```
[/Users/smann/anaconda3] >>> █
```

Anaconda Installation (Command Line)

```
Installing base environment...  
  
Downloading and Extracting Packages:  
  
Downloading and Extracting Packages:  
  
Preparing transaction: done  
Executing transaction: |  
done  
installation finished.  
Do you wish to update your shell profile to automatically initialize conda?  
This will activate conda on startup and change the command prompt when activated.  
If you'd prefer that conda's base environment not be activated on startup,  
run the following command when conda is activated:  
  
conda config --set auto_activate_base false  
  
You can undo this by running `conda init --reverse $SHELL`? [yes|no]  
[yes] >>> yes
```

yes to automatically activate
conda when you open a terminal

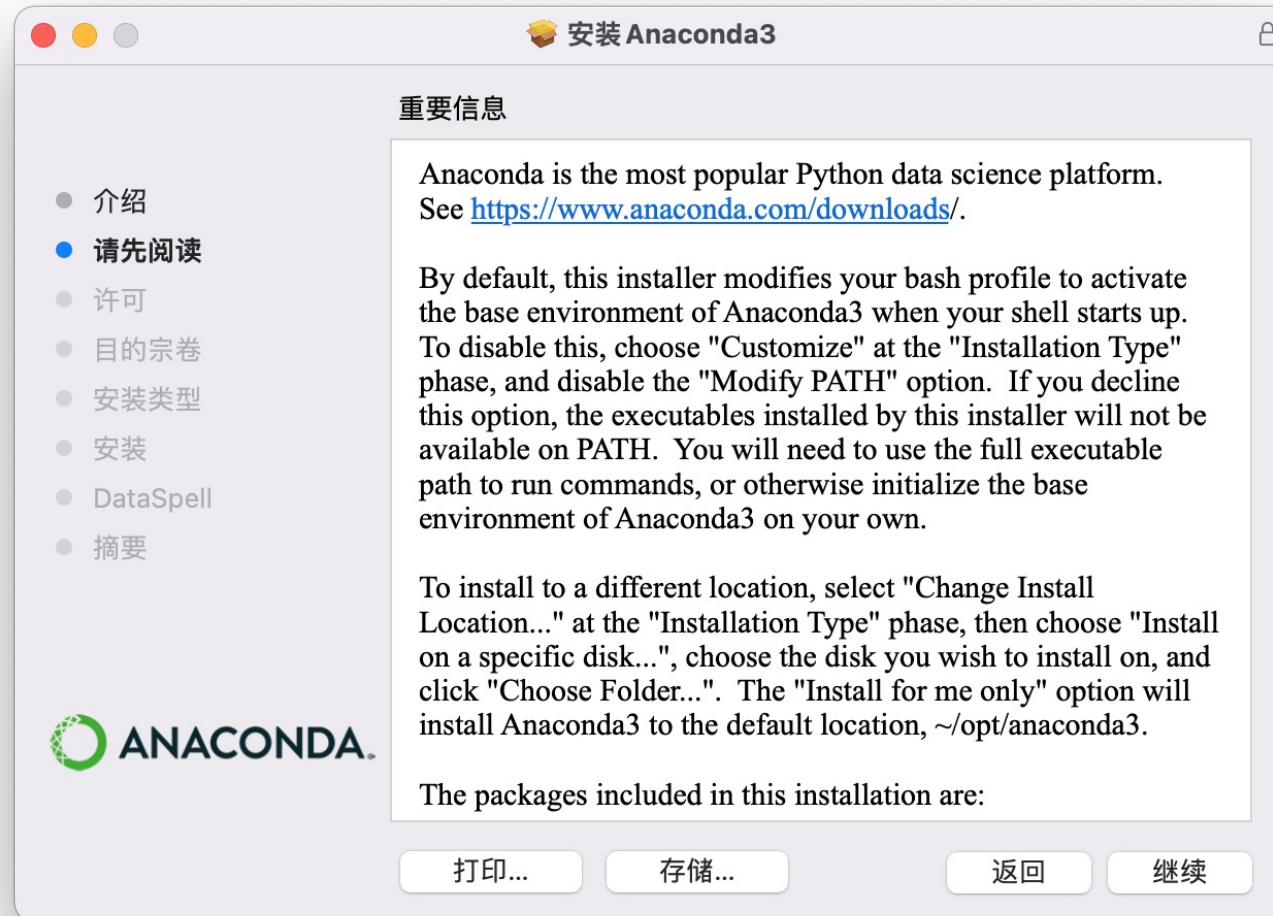
```
ismann@SympathischManndeMacBook-Pro Downloads % conda --version  
conda 24.5.0
```

test your conda

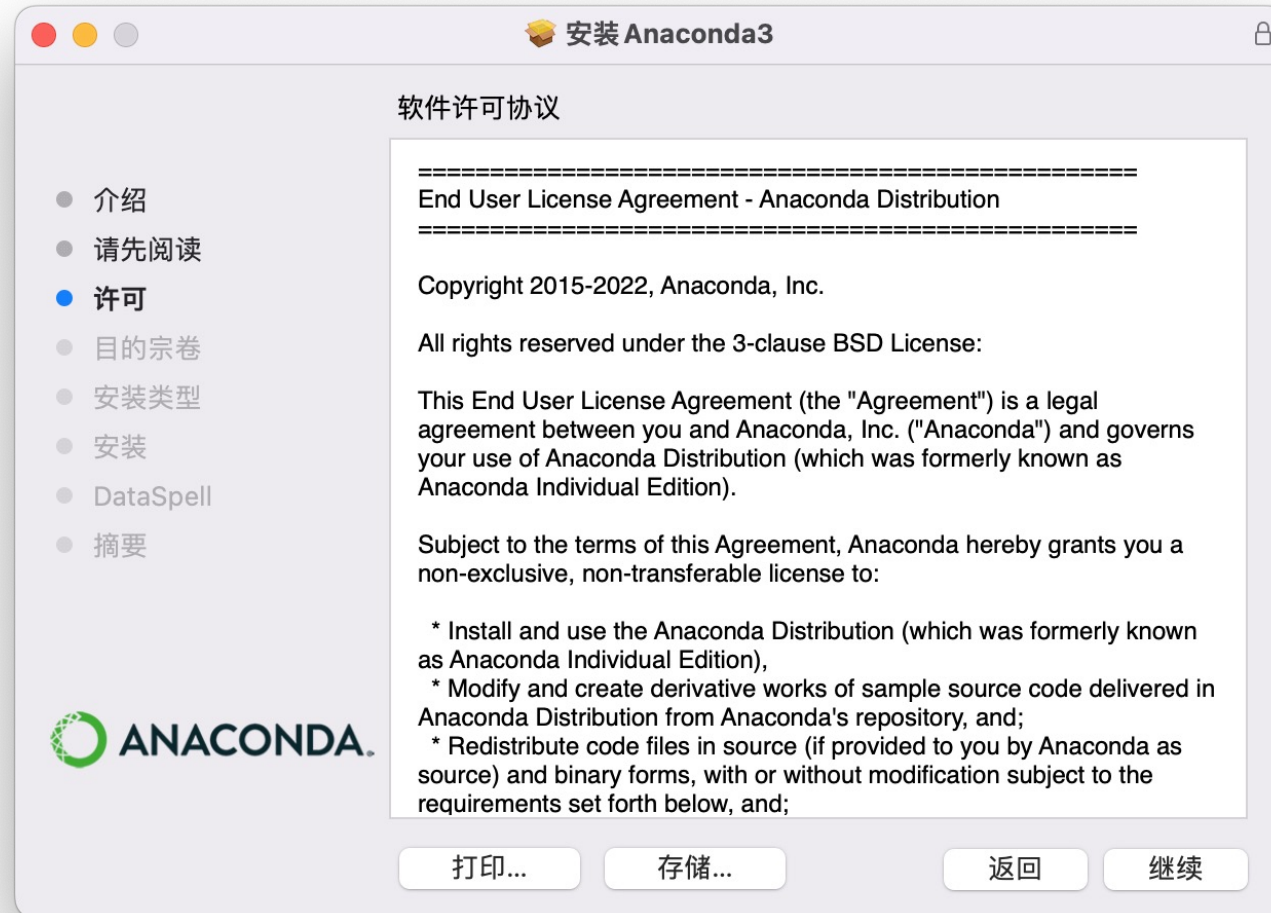
Anaconda Installation (Graphics)



Anaconda Installation (Graphics)



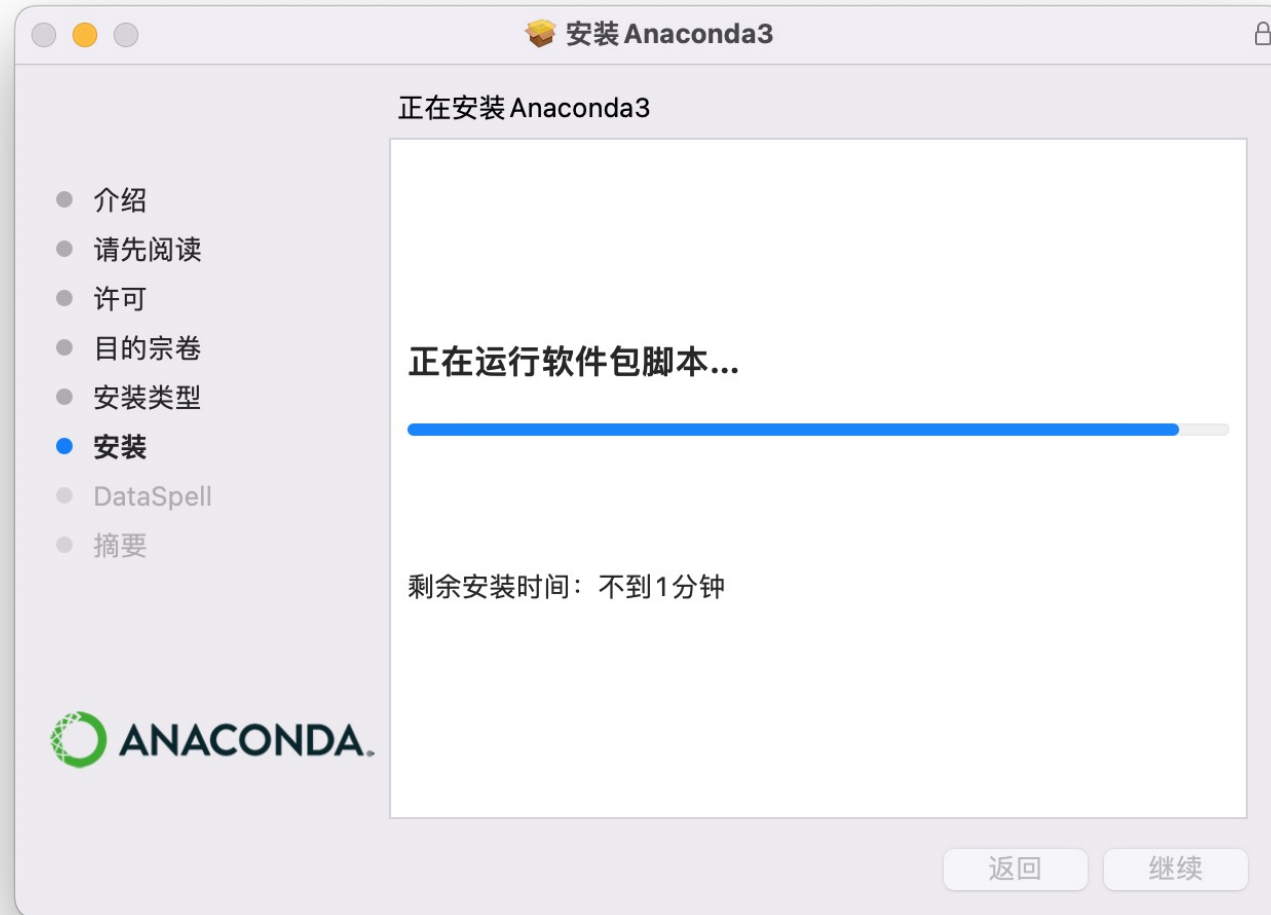
Anaconda Installation (Graphics)



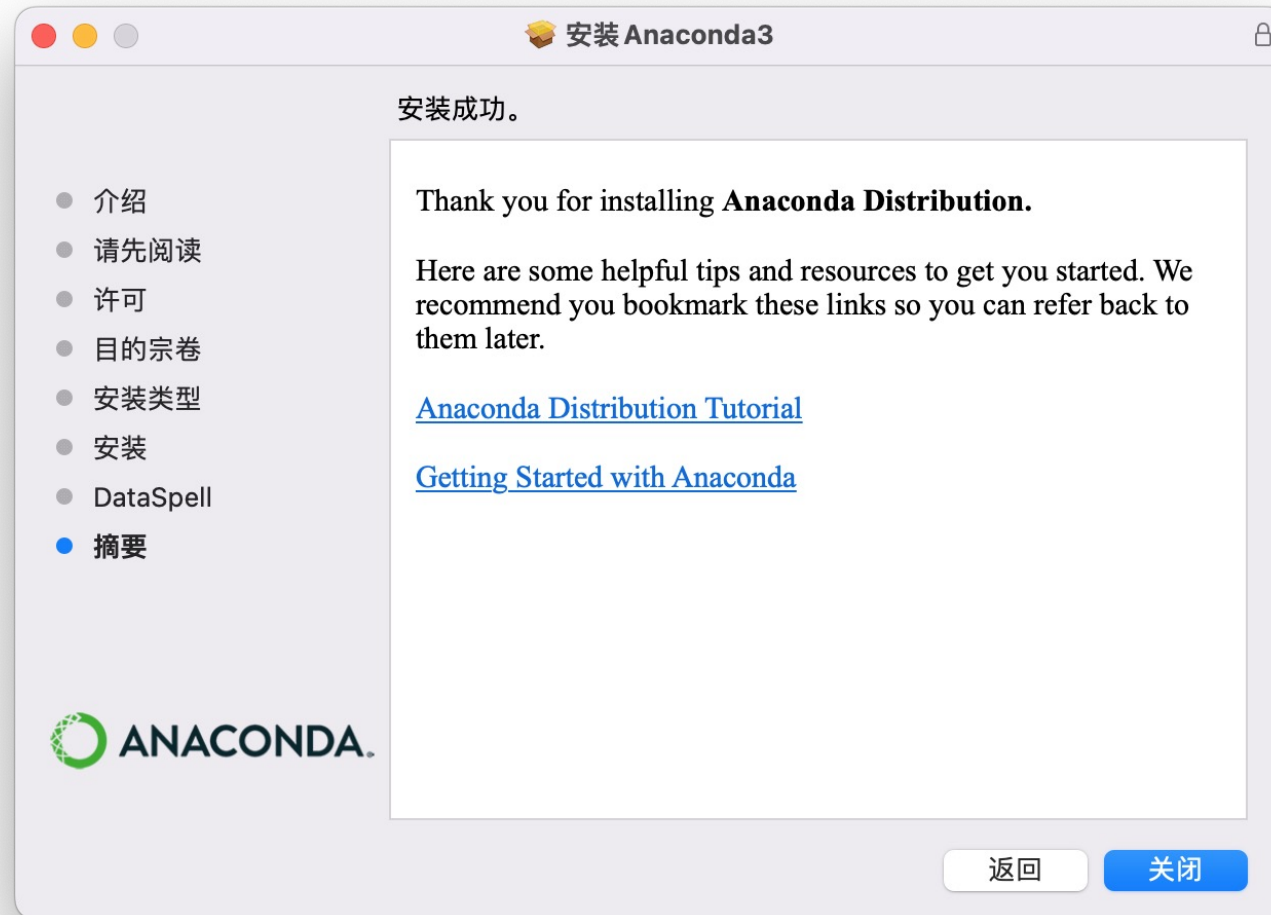
Anaconda Installation (Graphics)



Anaconda Installation (Graphics)



Anaconda Installation (Graphics)



Then test your conda

Anaconda Commands

More commands can be found [here](#)

`conda -V` or `conda --version` # the version of anaconda

`conda env list` or `conda info --envs` # virtual envs you have created

`conda create -n [env_name] python=x.x` # create env with name and python version

`conda remove -n [env_name] --all` # remove env

`conda activate [env_name]` # activate env

`conda deactivate [env_name]` # deactivate env

`conda install [package_name]` # install package in current env

`conda remove [package_name]` # remove package in current env

Git

Git Installation

The screenshot shows the Git website's Downloads page. At the top left is the Git logo with the tagline "--everything-is-local". To the right is a search bar with the placeholder text "Type / to search entire site...". On the left side, there is a navigation menu with links for "About", "Documentation", "Downloads" (which is highlighted in red), "GUI Clients", "Logos", and "Community". Below the menu is a box containing text about the "Pro Git book" by Scott Chacon and Ben Straub, available online for free on Amazon.com. The main content area is titled "Downloads" and features a central graphic of a computer monitor displaying the latest source release "2.46.0" with a "Download for Mac" button. Below the monitor, there are links for "Older releases" and the "Git source repository" on GitHub. At the bottom of the main content area, there are two columns: "GUI Clients" with a link to "View GUI Clients" and "Logos" with a link to "View Logos". At the very bottom, there is a section titled "Git via Git" with instructions on how to clone the repository and a link to the web interface.

git --everything-is-local

Type / to search entire site...

About
Documentation
Downloads
GUI Clients
Logos
Community

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](#).

Downloads

macOS Windows Linux/Unix

Latest source Release
2.46.0
Release Notes (2024-07-29)
Download for Mac

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

GUI Clients

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.

[View GUI Clients](#) →

Logos

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

[View Logos](#) →

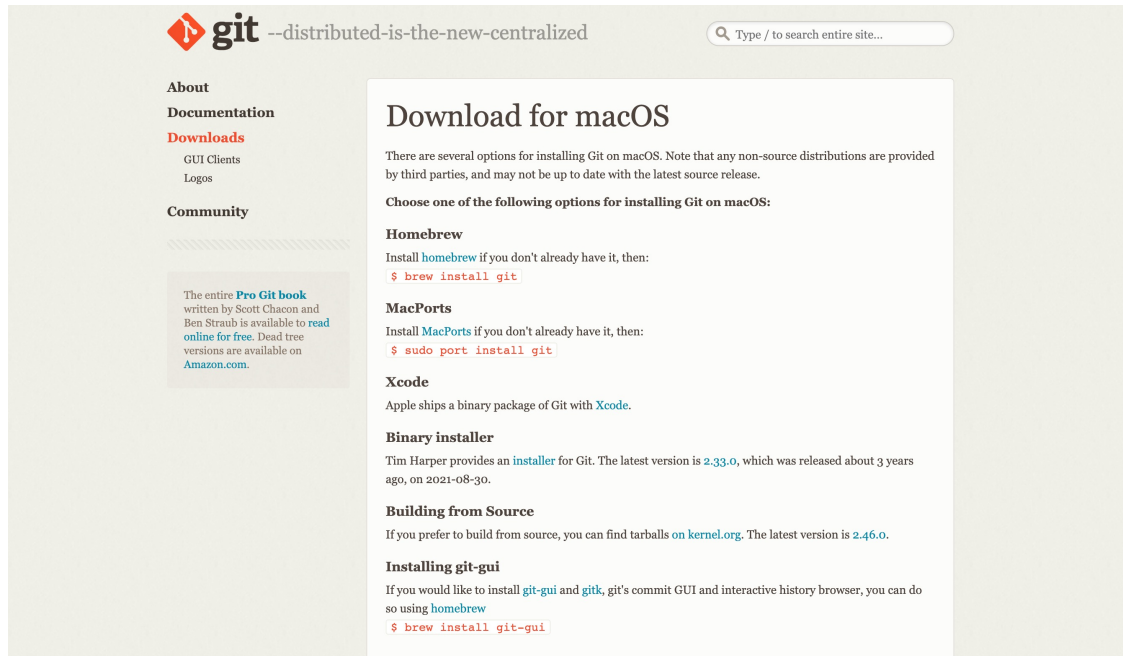
Git via Git

If you already have Git installed, you can get the latest development version via Git itself:

```
git clone https://github.com/git/git
```

You can also always browse the current contents of the git repository using the [web interface](#).

Git Installation



The screenshot shows the Git website for macOS installation. The header includes the Git logo and the tagline "--distributed-is-the-new-centralized". A search bar is present. The left sidebar contains navigation links: About, Documentation, Downloads (with sub-links for GUI Clients and Logos), and Community. The main content area is titled "Download for macOS" and provides instructions for installing Git on macOS. It lists several options: Homebrew, MacPorts, Xcode, Binary installer, Building from Source, and Installing git-gui. Each option includes a brief description and a terminal command to install Git.

Download for macOS

There are several options for installing Git on macOS. Note that any non-source distributions are provided by third parties, and may not be up to date with the latest source release.

Choose one of the following options for installing Git on macOS:

Homebrew
Install [homebrew](#) if you don't already have it, then:
`$ brew install git`

MacPorts
Install [MacPorts](#) if you don't already have it, then:
`$ sudo port install git`

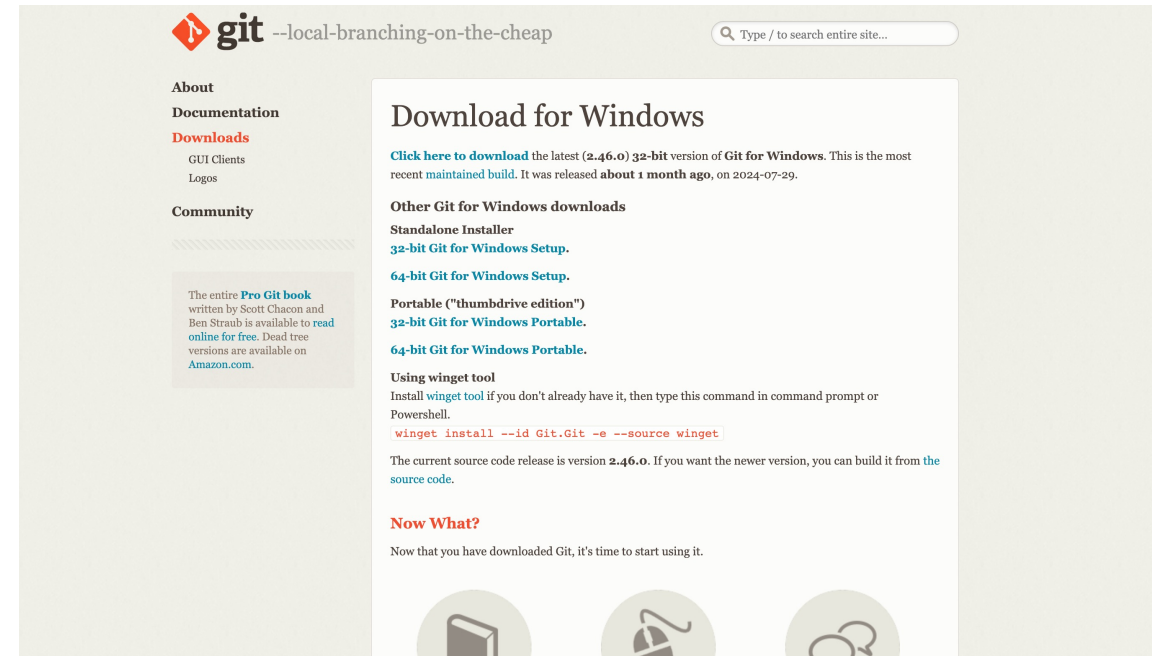
Xcode
Apple ships a binary package of Git with [Xcode](#).

Binary installer
Tim Harper provides an [installer](#) for Git. The latest version is [2.33.0](#), which was released about 3 years ago, on 2021-08-30.

Building from Source
If you prefer to build from source, you can find tarballs [on kernel.org](#). The latest version is [2.46.0](#).

Installing git-gui
If you would like to install [git-gui](#) and [gitk](#), git's commit GUI and interactive history browser, you can do so using [homebrew](#)
`$ brew install git-gui`

Mac



The screenshot shows the Git website for Windows installation. The header includes the Git logo and the tagline "--local-branching-on-the-cheap". A search bar is present. The left sidebar contains navigation links: About, Documentation, Downloads (with sub-links for GUI Clients and Logos), and Community. The main content area is titled "Download for Windows" and provides instructions for installing Git on Windows. It lists several options: Standalone Installer, Other Git for Windows downloads, Portable ("thumbdrive edition"), and Using winget tool. Each option includes a brief description and a terminal command to install Git.

Download for Windows

[Click here to download](#) the latest ([2.46.0](#)) **32-bit** version of **Git for Windows**. This is the most recent [maintained build](#). It was released [about 1 month ago](#), on 2024-07-29.

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`

The current source code release is version [2.46.0](#). If you want the newer version, you can build it from [the source code](#).

Now What?
Now that you have downloaded Git, it's time to start using it.

Windows

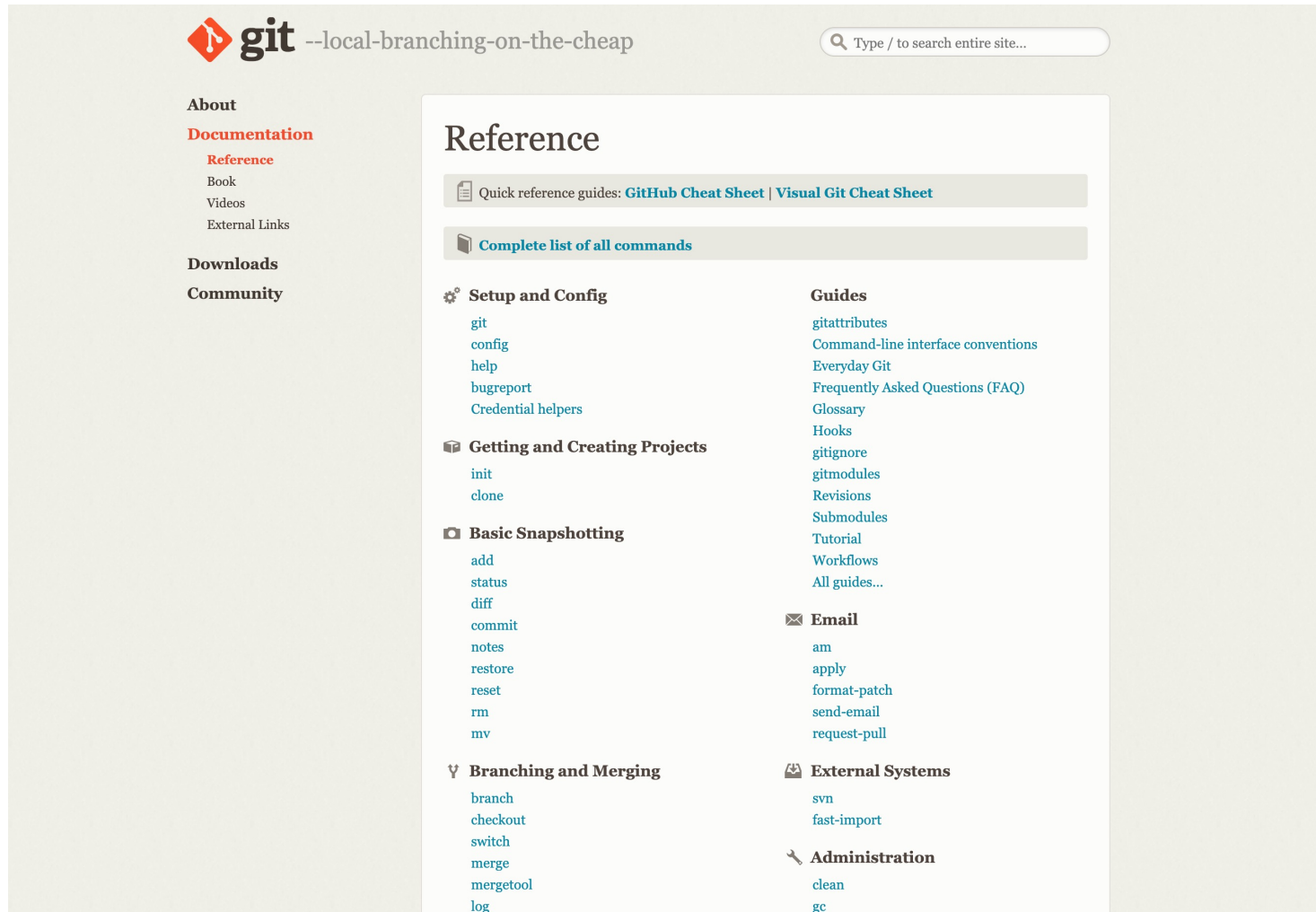
`apt-get install git` # install git for linux

`git --version` # test the installation

Git Commands

<https://git-scm.com/docs>

Highly recommend you to learn from the doc



The screenshot shows the Git documentation website. At the top left is the Git logo with the tagline "--local-branching-on-the-cheap". To the right is a search bar with the placeholder text "Type / to search entire site...". On the left side, there is a navigation menu with sections: "About", "Documentation" (highlighted in red), "Reference" (highlighted in red), "Book", "Videos", "External Links", "Downloads", and "Community". The main content area is titled "Reference" and contains several sections:

- Quick reference guides:** [GitHub Cheat Sheet](#) | [Visual Git Cheat Sheet](#)
- Complete list of all commands**
- Setup and Config**
 - [git](#)
 - [config](#)
 - [help](#)
 - [bugreport](#)
 - [Credential helpers](#)
- Getting and Creating Projects**
 - [init](#)
 - [clone](#)
- Basic Snapshotting**
 - [add](#)
 - [status](#)
 - [diff](#)
 - [commit](#)
 - [notes](#)
 - [restore](#)
 - [reset](#)
 - [rm](#)
 - [mv](#)
- Branching and Merging**
 - [branch](#)
 - [checkout](#)
 - [switch](#)
 - [merge](#)
 - [mergetool](#)
 - [log](#)
- Guides**
 - [gitattributes](#)
 - [Command-line interface conventions](#)
 - [Everyday Git](#)
 - [Frequently Asked Questions \(FAQ\)](#)
 - [Glossary](#)
 - [Hooks](#)
 - [gitignore](#)
 - [gitmodules](#)
 - [Revisions](#)
 - [Submodules](#)
 - [Tutorial](#)
 - [Workflows](#)
 - [All guides...](#)
- Email**
 - [am](#)
 - [apply](#)
 - [format-patch](#)
 - [send-email](#)
 - [request-pull](#)
- External Systems**
 - [svn](#)
 - [fast-import](#)
- Administration**
 - [clean](#)
 - [gc](#)

Setting Your Environment

Create a new environment for LFD

```
smann@SympathischManndeMacBook-Pro ~ % conda activate  
(base) smann@SympathischManndeMacBook-Pro ~ % conda create -n lfd python=3.9
```

The following NEW packages will be INSTALLED:

ca-certificates	pkgs/main/osx-arm64::ca-certificates-2024.7.2-hca03da5_0
libcxx	pkgs/main/osx-arm64::libcxx-14.0.6-h848a8c0_0
libffi	pkgs/main/osx-arm64::libffi-3.4.4-hca03da5_1
ncurses	pkgs/main/osx-arm64::ncurses-6.4-h313beb8_0
openssl	pkgs/main/osx-arm64::openssl-3.0.15-h80987f9_0
pip	pkgs/main/osx-arm64::pip-24.2-py39hca03da5_0
python	pkgs/main/osx-arm64::python-3.9.19-hb885b13_1
readline	pkgs/main/osx-arm64::readline-8.2-h1a28f6b_0
setuptools	pkgs/main/osx-arm64::setuptools-72.1.0-py39hca03da5_0
sqlite	pkgs/main/osx-arm64::sqlite-3.45.3-h80987f9_0
tk	pkgs/main/osx-arm64::tk-8.6.14-h6ba3021_0
tzdata	pkgs/main/noarch::tzdata-2024a-h04d1e81_0
wheel	pkgs/main/osx-arm64::wheel-0.43.0-py39hca03da5_0
xz	pkgs/main/osx-arm64::xz-5.4.6-h80987f9_1
zlib	pkgs/main/osx-arm64::zlib-1.2.13-h18a0788_1

Proceed ([y]/n)?

Downloading and Extracting Packages:

```
Preparing transaction: done  
Verifying transaction: / █
```

Install packages

```
(base) smann@SympathischManndeMacBook-Pro ~ % conda activate lfd
(lfd) smann@SympathischManndeMacBook-Pro ~ % pip install numpy
Collecting numpy
  Downloading numpy-2.0.2-cp39-cp39-macosx_14_0_arm64.whl.metadata (60 kB)
Downloading numpy-2.0.2-cp39-cp39-macosx_14_0_arm64.whl (5.3 MB)
----- 5.3/5.3 MB 7.2 MB/s eta 0:00:00
Installing collected packages: numpy
Successfully installed numpy-2.0.2
(lfd) smann@SympathischManndeMacBook-Pro ~ %
```

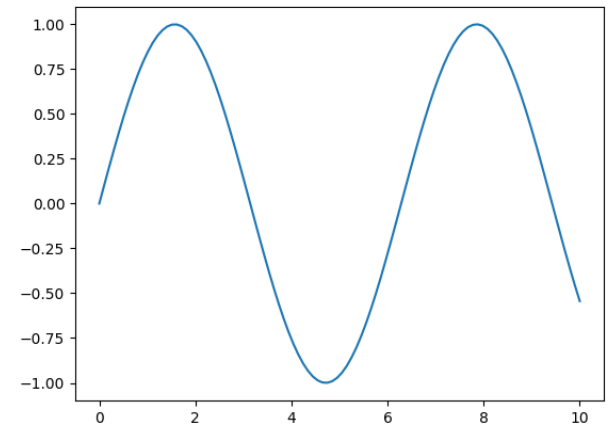
```
(lfd) smann@SympathischManndeMacBook-Pro ~ % pip install matplotlib
```

```
Installing collected packages: zipp, six, pyparsing, pillow, packaging, kiwisolver, fonttools, cyclor, contourpy, python-dateutil, importlib-resources, matplotlib
Successfully installed contourpy-1.3.0 cyclor-0.12.1 fonttools-4.53.1 importlib-resources-6.4.4 kiwisolver-1.4.7 matplotlib-3.9.2 packaging-24.1 pillow-10.4.0 pyparsing-3.1.4 python-dateutil-2.9.0.post0 six-1.16.0 zipp-3.20.1
(lfd) smann@SympathischManndeMacBook-Pro ~ %
```

pip installs required packages

A test example

```
(lfd) smann@SympathischManndeMacBook-Pro ~ % python
Python 3.9.19 (main, May 6 2024, 14:39:30)
[Clang 14.0.6 ] :: Anaconda, Inc. on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> import numpy as np
>>> import matplotlib.pyplot as plt
>>> x = np.linspace(0,10,100)
>>> y = np.sin(x)
>>> plt.plot(x,y)
[<matplotlib.lines.Line2D object at 0x109983a90>]
>>> plt.show()
```



Learn to use Github classroom

Github classroom

test20240907tongwu-classroom-test

test20240907tongwu

☆ **Assignments** 2 👤 Students 3 🧑 TAs and Admins 1 ⚙️ Settings

Assignments

+ New assignment

🔔 Get verified to get Codespaces Education benefit.

Get verified ×

first_test

● Active 👤 Individual assignment

📄 Copy invite link



test

● Active 👤 Individual assignment

📄 Copy invite link



Create from a link invitation

GitHub Classroom

GitHub Education



test20240907tongwu-classroom-test

Accept the assignment —

test

Once you accept this assignment, you will be granted access to the `test-wut19` repository in the `test20240907tongwu` organization on GitHub.

Accept this assignment


Create from a link invitation



You're ready to go!

You accepted the assignment, **test**.

Your assignment repository has been created:

 <https://github.com/test20240907tongwu/test-wut19>

We've configured the repository associated with this assignment.

 Your assignment is due by **Sep 26, 2024, 05:36 UTC**

Note: You may receive an email invitation to join [test20240907tongwu](#) on your behalf. No further action is necessary.



Join the GitHub Student Developer Pack

Verified students receive free GitHub Pro plus thousands of dollars worth of the best real-world tools and training from GitHub Education partners — for free. For more information, visit [GitHub Student Developer Pack](#).

Apply

Create from a link invitation

The screenshot shows a GitHub repository page for a user named 'test-wut19'. The repository is private and is a fork of 'test20240907tongwu/test20240907tongwu-classroom-test-test-test_education'. The repository is currently on the 'main' branch, which is 1 commit ahead of the original repository. A red box highlights the 'Code' button in the top navigation bar. The repository contains a single file, 'README.md', which was added 2 minutes ago. The README content includes a button labeled 'Review the assignment due date' and the text 'test_education'. The right sidebar shows repository statistics: 0 stars, 0 watching, and 0 forks. There are also sections for 'Releases' and 'Packages', both of which are currently empty.

test-wut19 Private

forked from [test20240907tongwu/test20240907tongwu-classroom-test-test-test_education](#)

main 1 Branch 0 Tags

Go to file t Add file <> Code

About

This branch is 1 commit ahead of [test20240907tongwu/test20240907tongwu-classroom-test-test-test_education:main](#).

Contribute Sync fork

github-classroom[bot] add deadline cd27716 · 2 minutes ago 2 Commits

README.md add deadline 2 minutes ago

README

Review the assignment due date

test_education

Readme

Activity

Custom properties

0 stars

0 watching

0 forks

Releases

No releases published

[Create a new release](#)

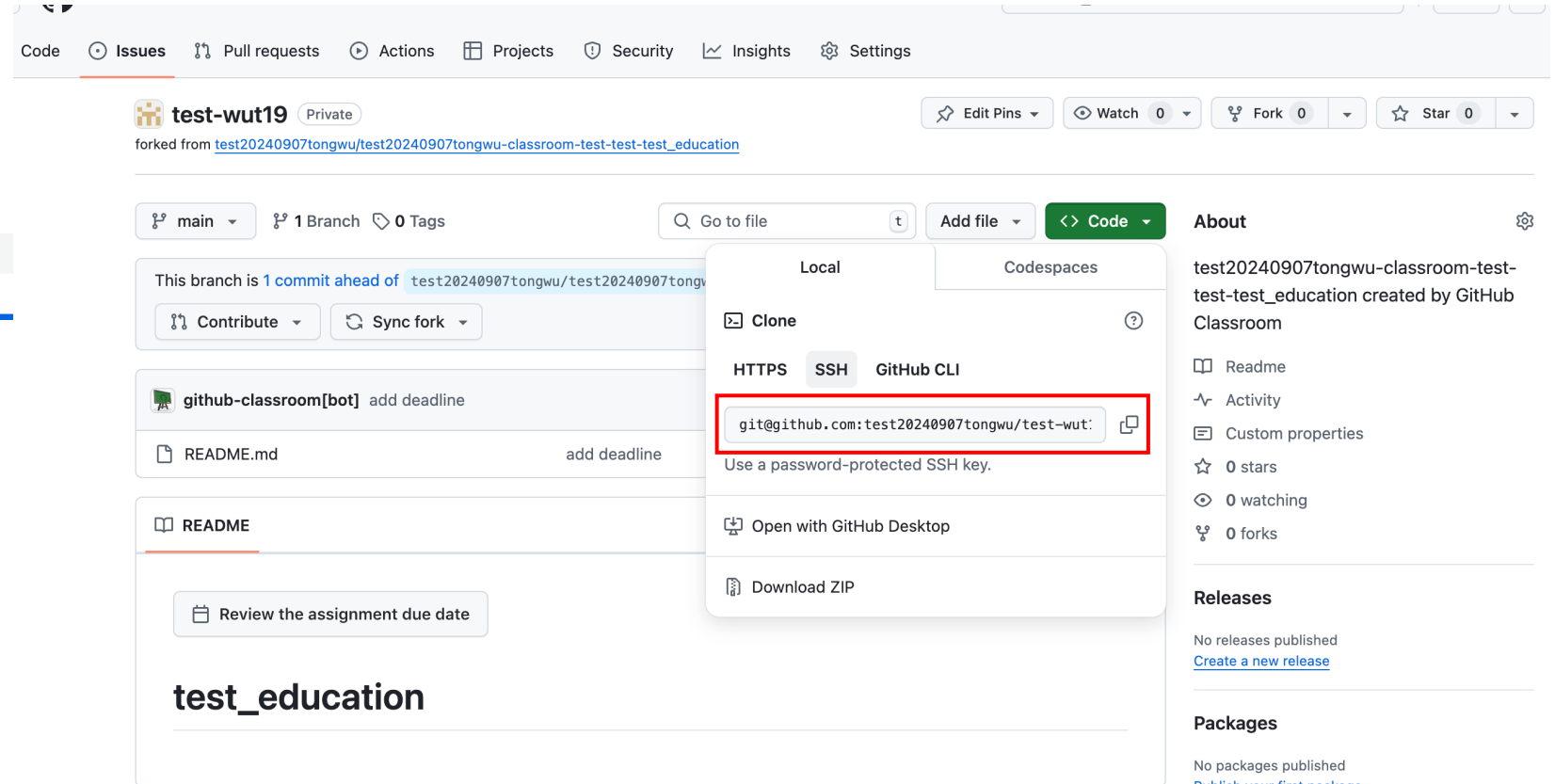
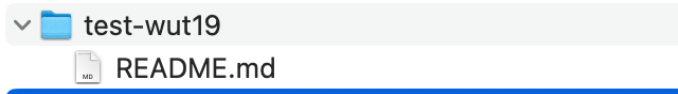
Packages

No packages published

[Publish your first package](#)

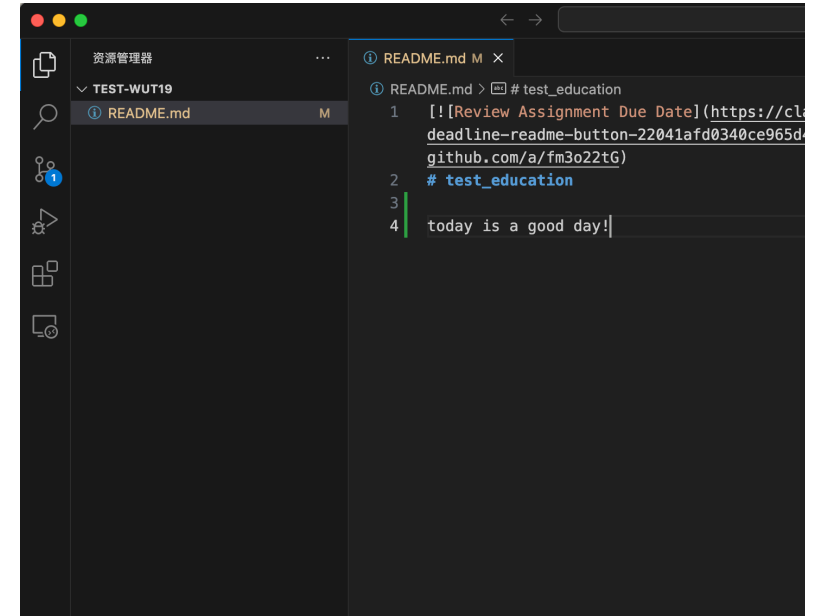
Clone the repo and code!

git clone [example_ssh]

A screenshot of a GitHub repository page for 'test-wut19'. The repository is private and forked from 'test20240907tongwu/test20240907tongwu-classroom-test-test-test_education'. The 'Code' dropdown menu is open, showing options for cloning the repository. The SSH clone URL 'git@github.com:test20240907tongwu/test-wut19' is highlighted with a red box. The page also shows the repository's main branch, a commit history, and a README section with a 'Review the assignment due date' button.

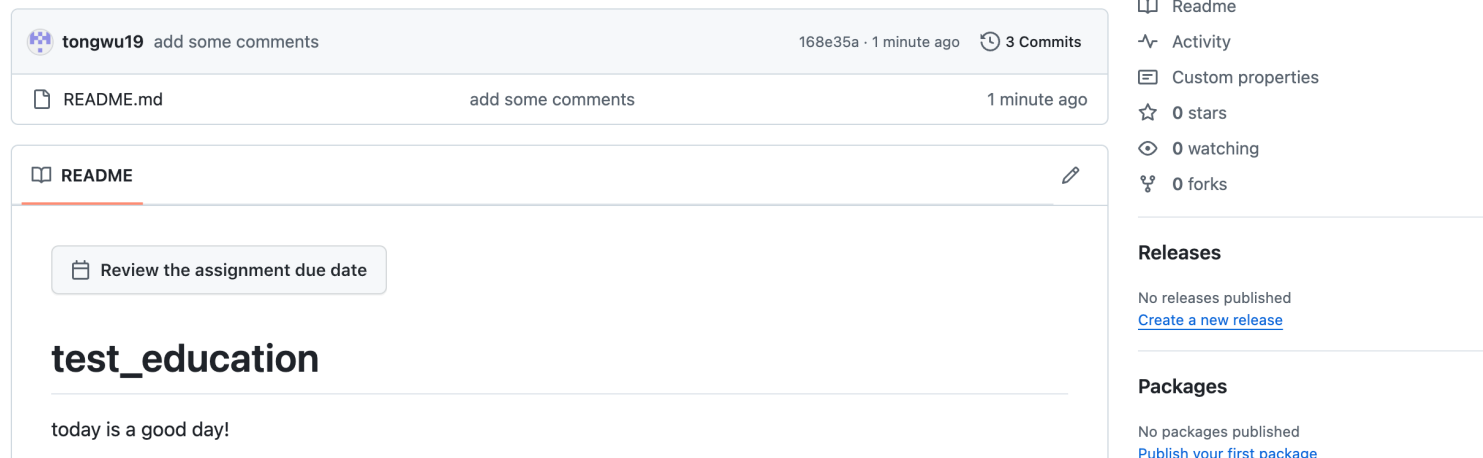
Push to remote repo

```
(base) smann@SympathischManndeMacBook-Pro test-wut19 % git add .
(base) smann@SympathischManndeMacBook-Pro test-wut19 % git commit -m 'add some comments'
[main 168e35a] add some comments
1 file changed, 3 insertions(+), 1 deletion(-)
(base) smann@SympathischManndeMacBook-Pro test-wut19 % git push
枚举对象中: 5, 完成.
对象计数中: 100% (5/5), 完成.
使用 8 个线程进行压缩
压缩对象中: 100% (2/2), 完成.
写入对象中: 100% (3/3), 299 字节 | 299.00 KiB/s, 完成.
总共 3 (差异 1), 复用 0 (差异 0), 包复用 0 (来自 0 个包)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:test20240907tongwu/test-wut19.git
   cd27716..168e35a  main -> main
(base) smann@SympathischManndeMacBook-Pro test-wut19 %
```



The screenshot shows a code editor window with a sidebar on the left displaying the file structure of a repository named 'TEST-WUT19', with 'README.md' selected. The main editor area shows the content of 'README.md' with the following text:

```
1  [!][Review Assignment Due Date](https://cl
2  deadline-readme-button-22041afd0340ce965d
3  github.com/a/fm3o22tg)
4  # test_education
5
6  today is a good day!
```



The screenshot shows the GitHub repository page for 'test_education' by user 'tongwu19'. The repository was created '168e35a · 1 minute ago' and has '3 Commits'. The README file is highlighted, showing a commit message 'add some comments' from '1 minute ago'. The README content includes a button 'Review the assignment due date', the repository name 'test_education', and the text 'today is a good day!'. On the right sidebar, there are sections for 'Readme', 'Activity', 'Custom properties', '0 stars', '0 watching', '0 forks', 'Releases' (with 'No releases published' and a link to 'Create a new release'), and 'Packages' (with 'No packages published' and a link to 'Publish your first package').