Introduction to Git

Agenda

- Git
- Git Hub
- Git CLI
- Git GUI
- Git Sign

Git

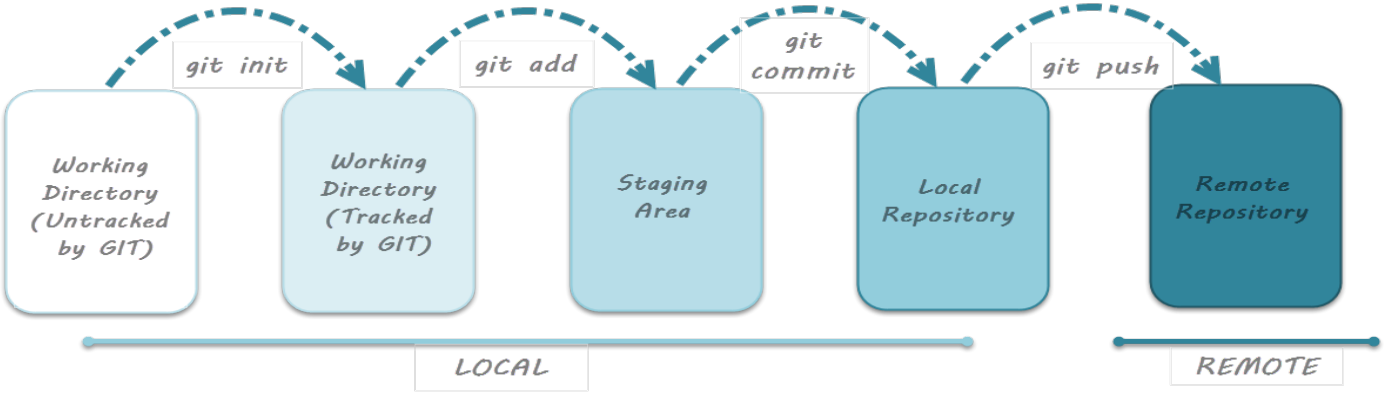
- What is Git?
  - Version Control System

Git

- Why use Git?
  - Source Code Tracking
  - Team Work Development

Git

- Git State
  - Untracked
  - Working Directory
  - Staged
  - Local Repository
  - Remote Repository

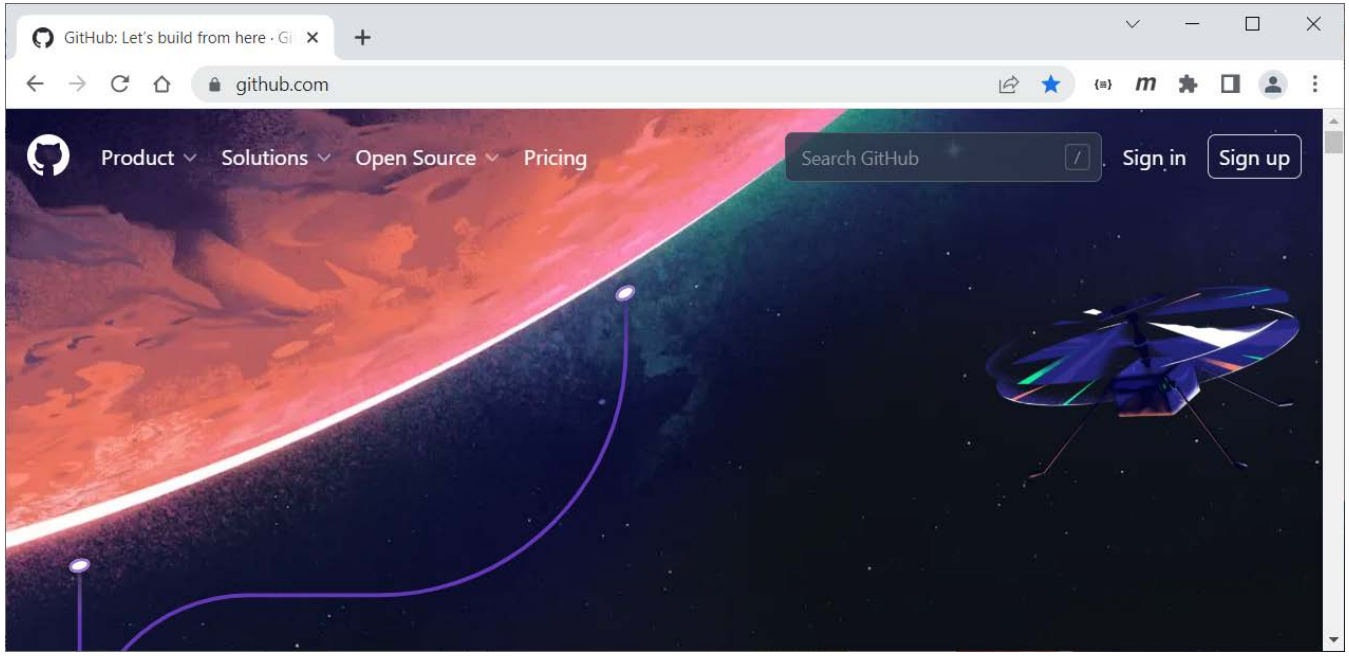


Git Hub

- What is Git Hub?
  - Web site for Git
  - Control version repository

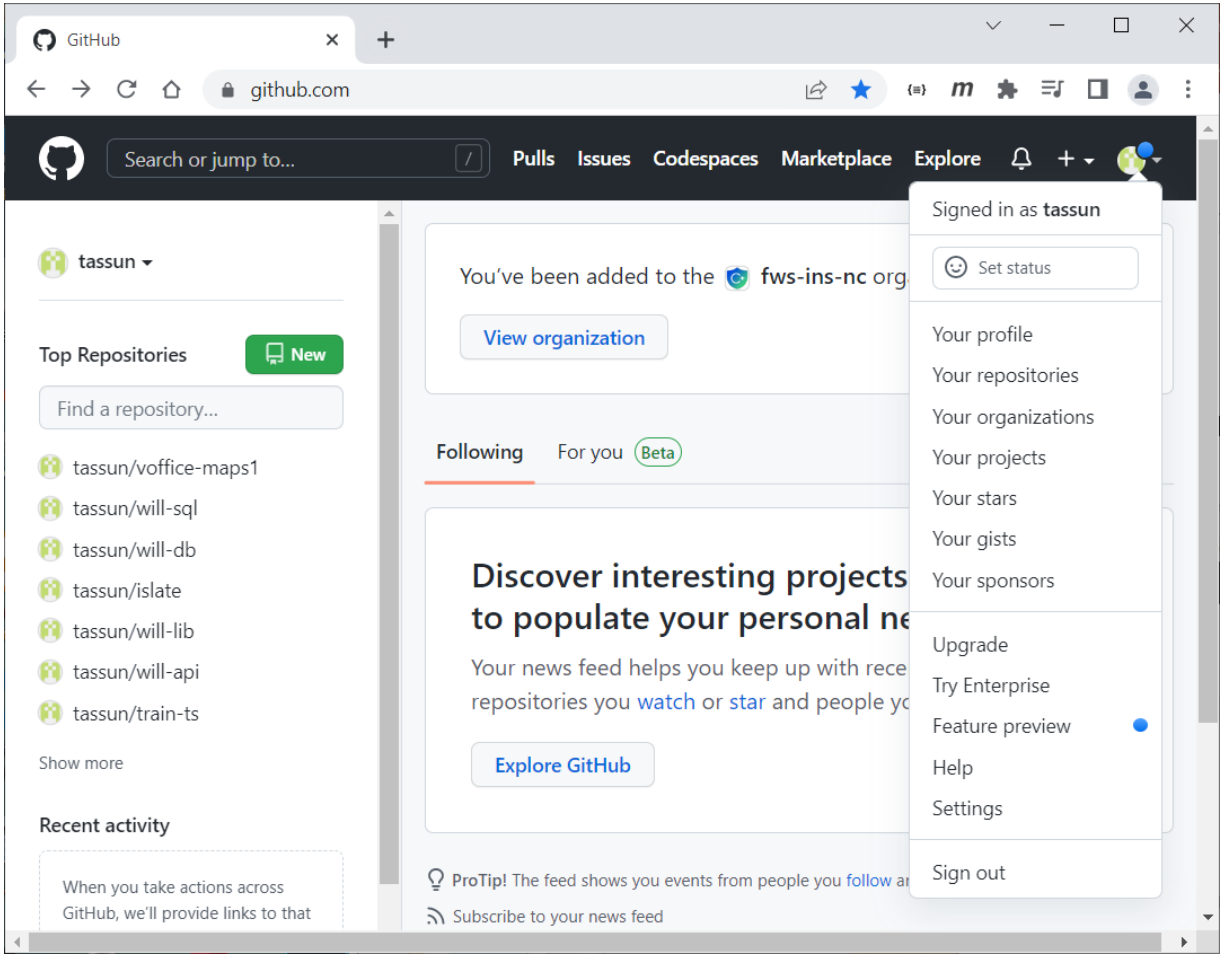
Git Hub

- How to use Git Hub?
  - Go to https://github.com
  - Create account (Sign up)



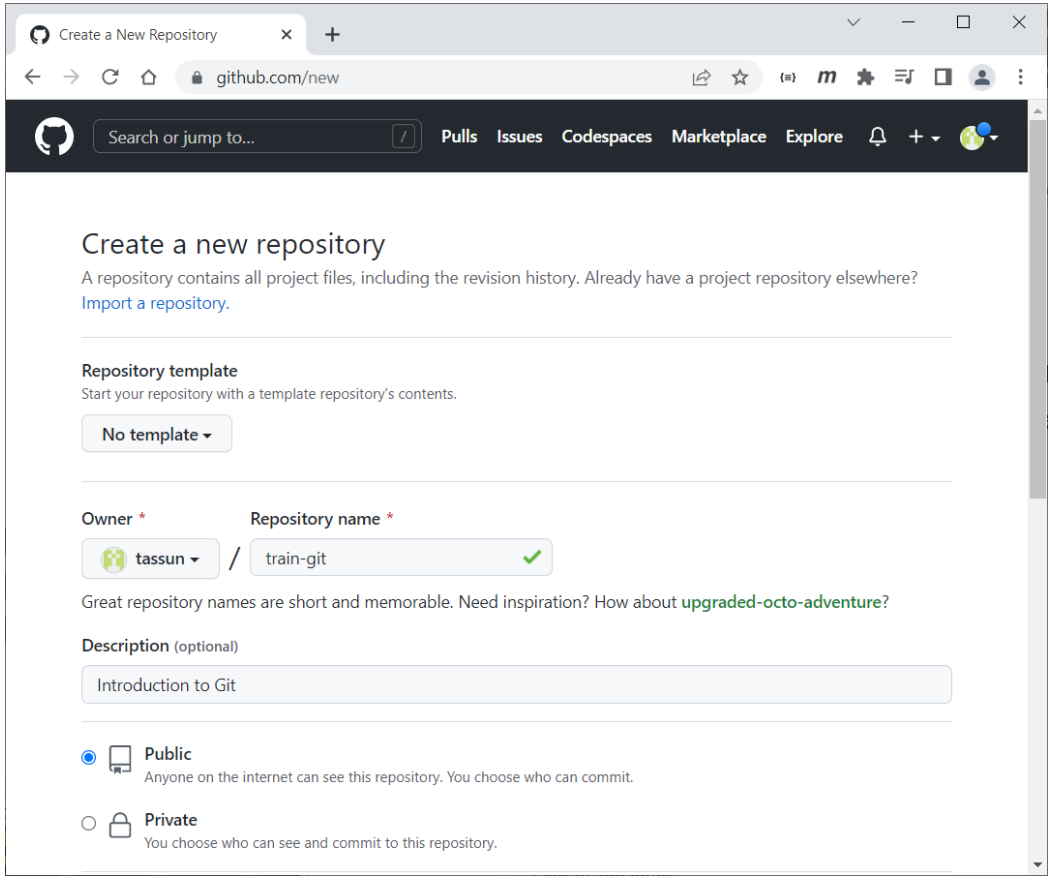
Git Hub

- How to use Git Hub?



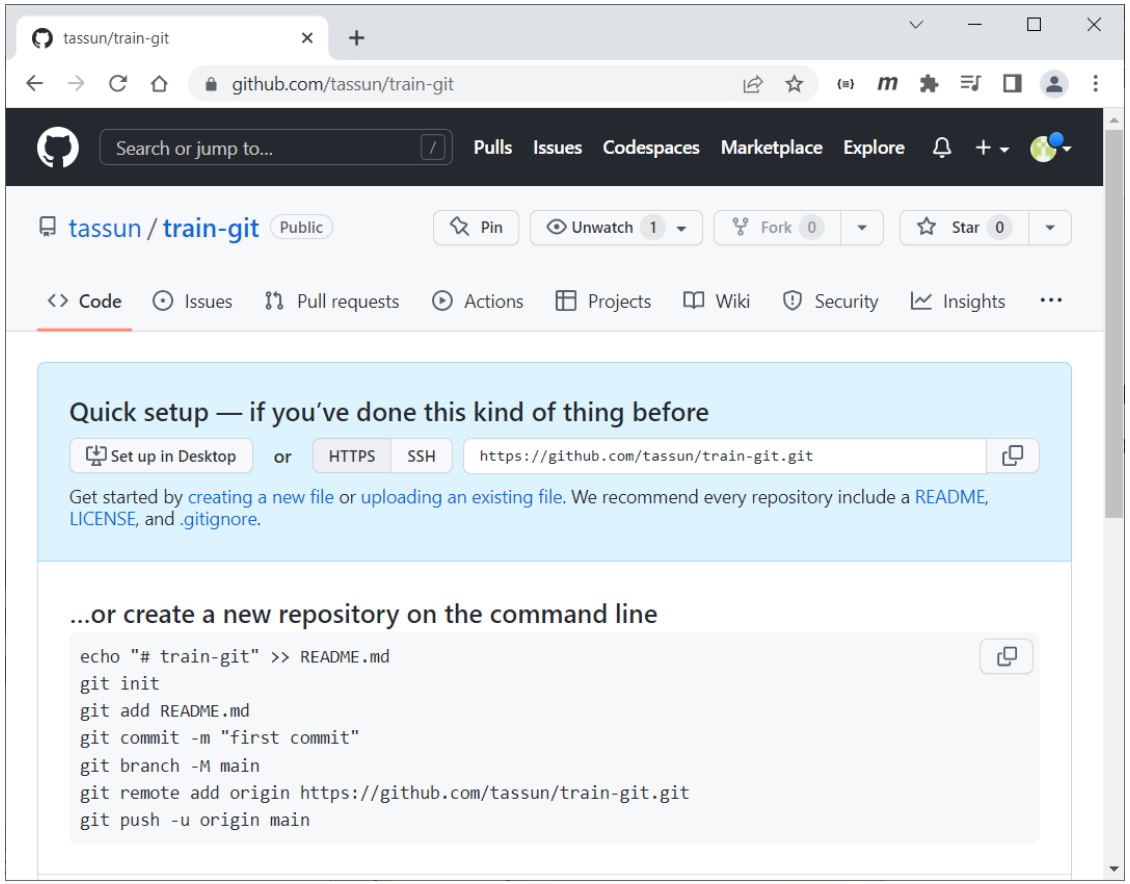
Git Hub

- How to use Git Hub?
  - Create repository



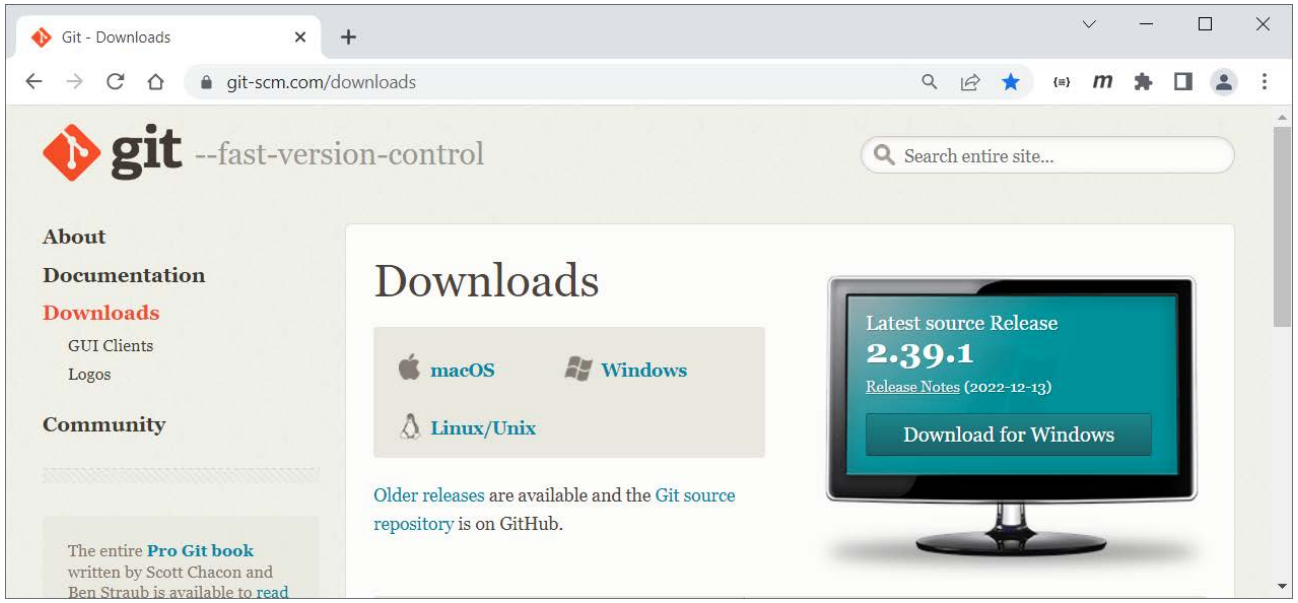
Git Hub

- How to use Git Hub?
  - Create repository



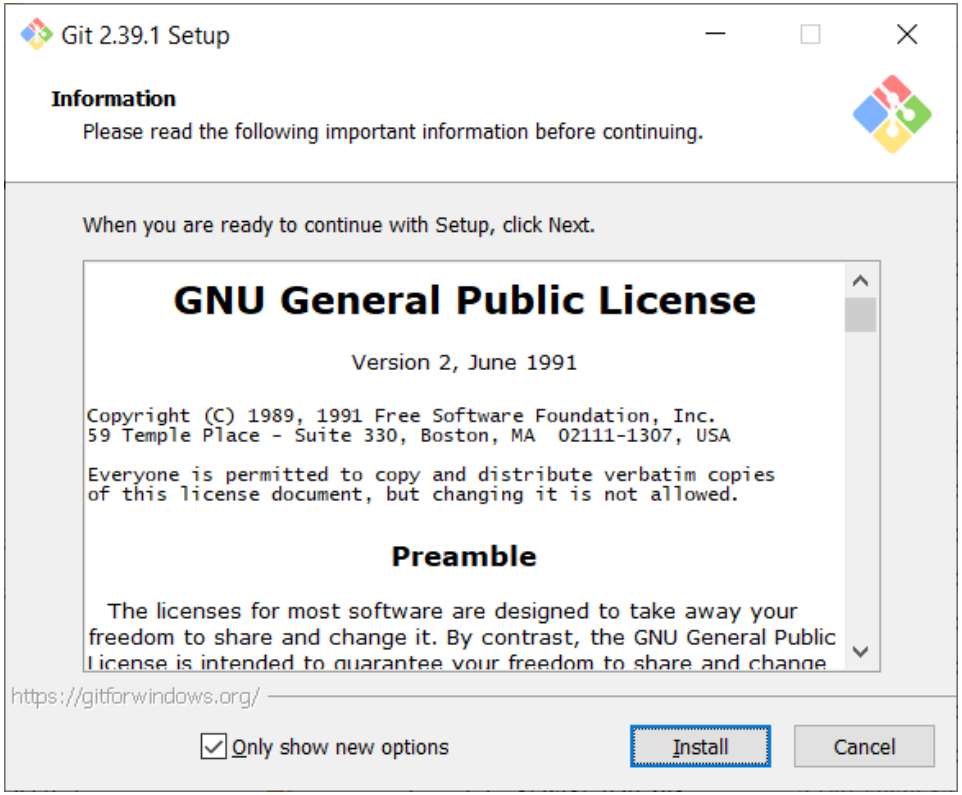
Git CLI

- How to use Git?
  - Go to https://git-scm.com/
  - Download & Install
    - https://git-scm.com/downloads



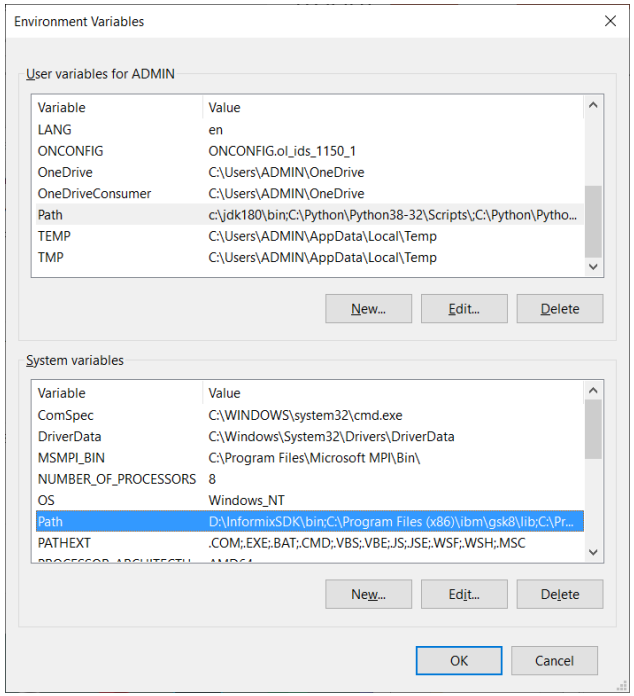
Git CLI

- Git Installation
  - windows



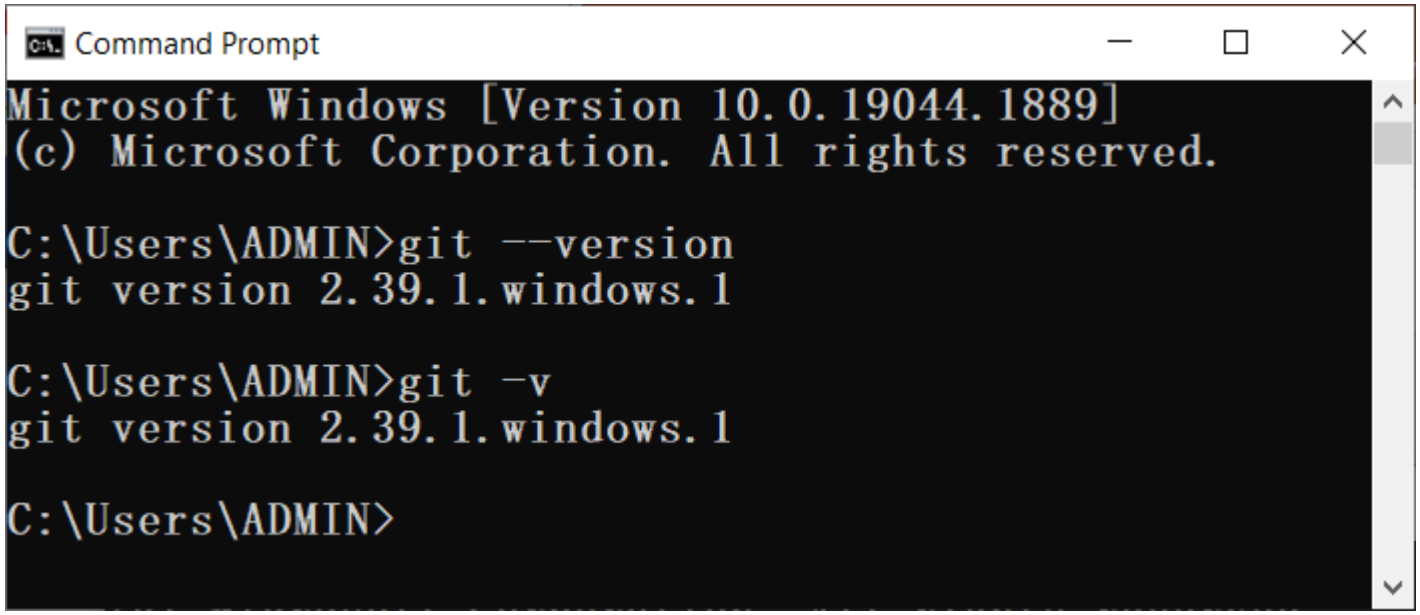
Git CLI

- Git Installation
  - windows portable
    - Settings -> Advanced system settings
      - System Properties -> Advanced -> Environment Variables
        - set PATH



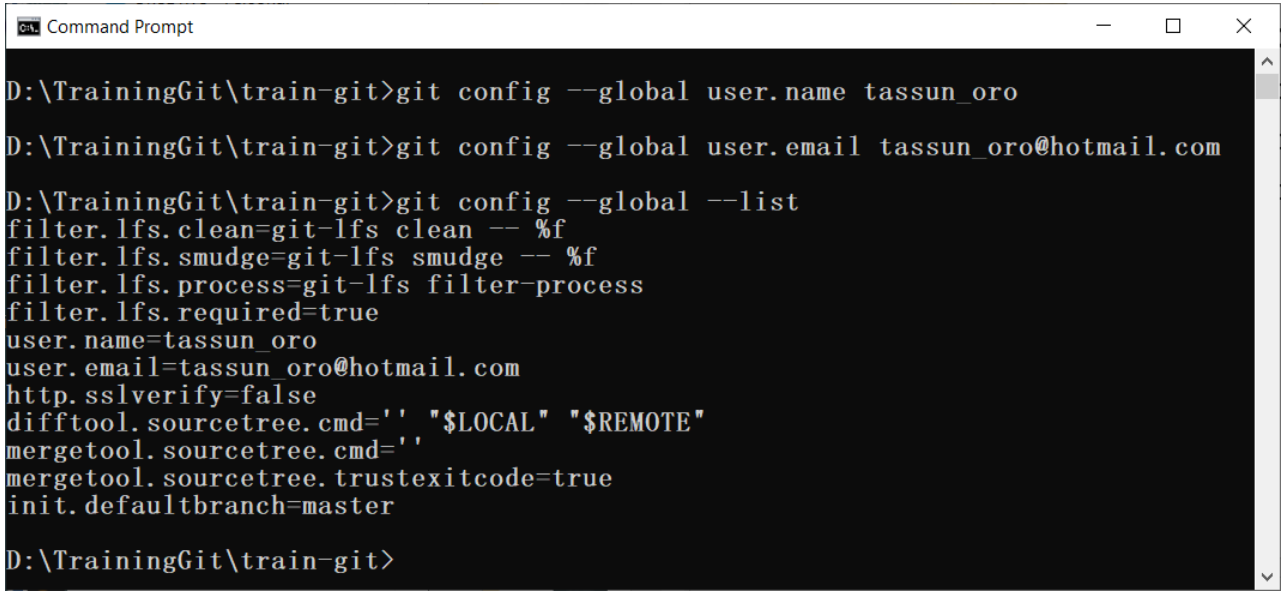
Git CLI

- Git Command
  - git --version or git -v
  - git help , git help <command>



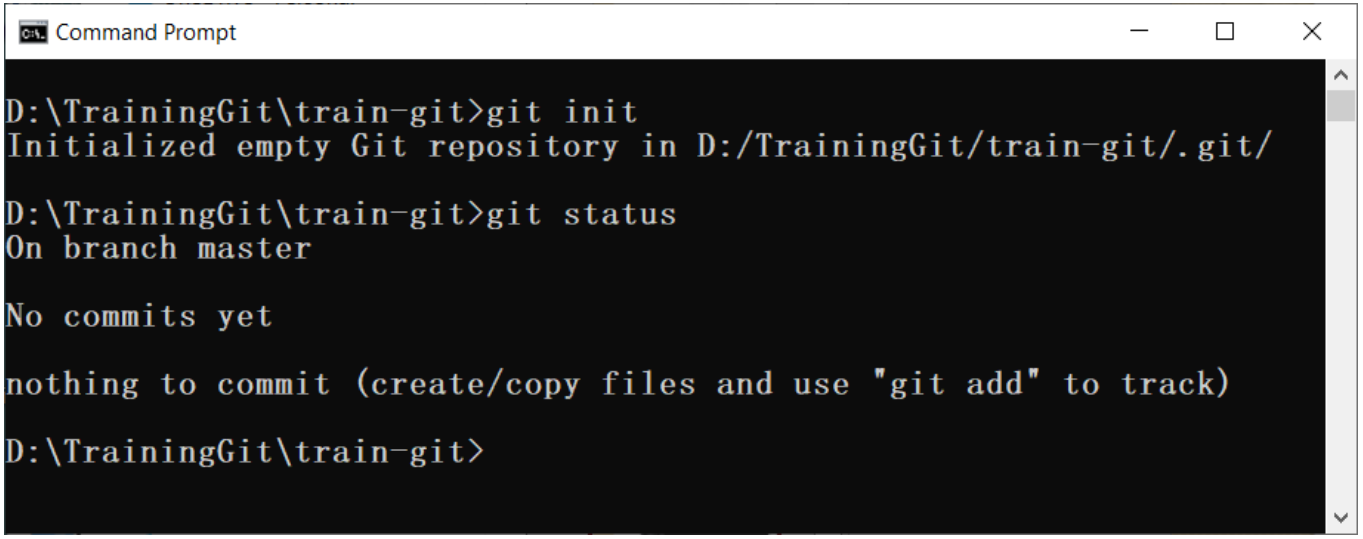
Git CLI

- Git Command
  - git config
    - git config --global user.name your-name
    - git config --global user.email your-email
    - git config --global --list



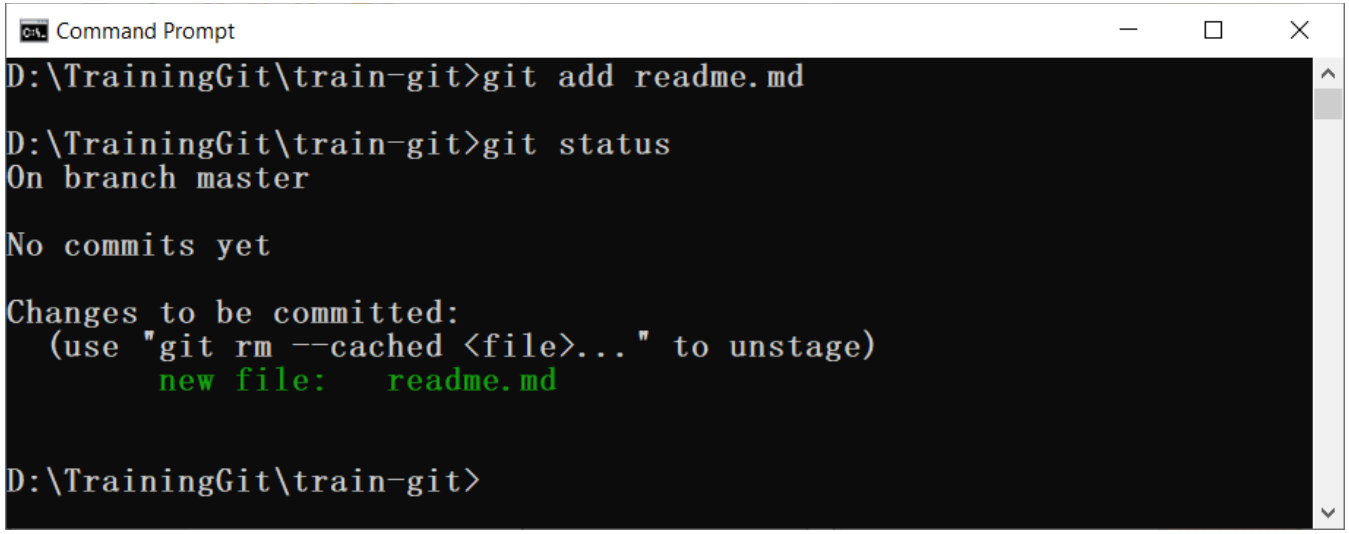
Git CLI

- Git Command
  - git init
    - create .git folder store local changed
  - git status



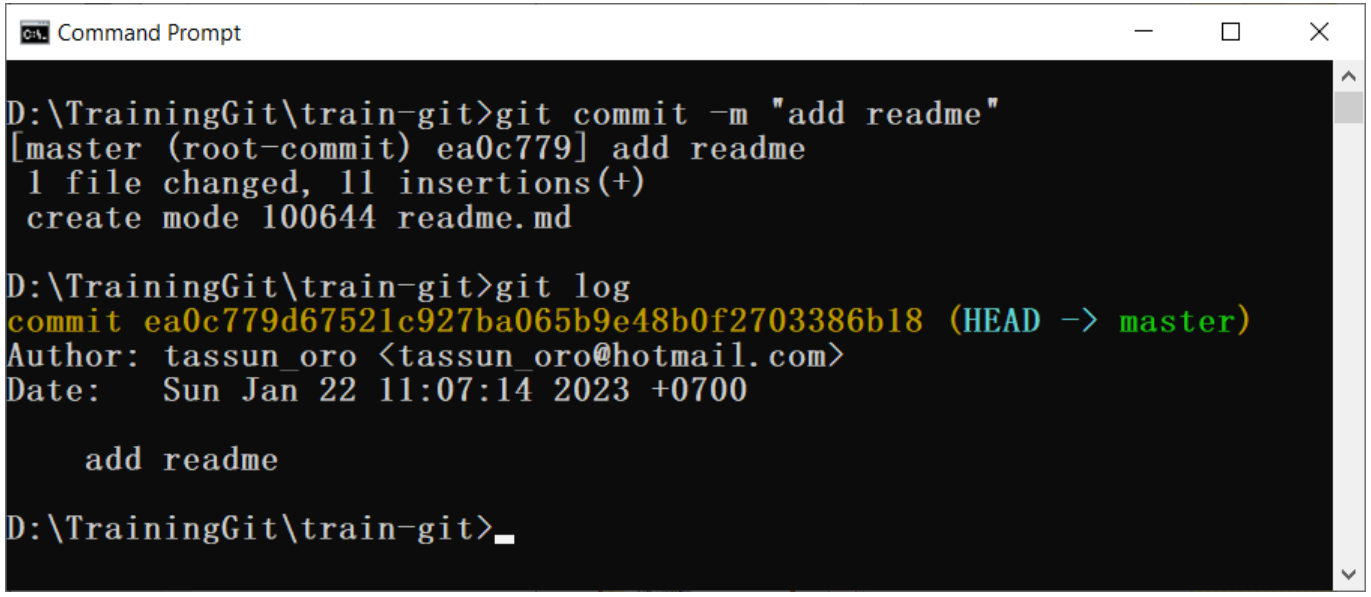
Git CLI

- Git Command
  - git add
    - git add file-name
    - git add . or git add *.txt
  - git status



Git CLI

- Git Command
  - git commit
    - git commit –m your-messages
  - git log

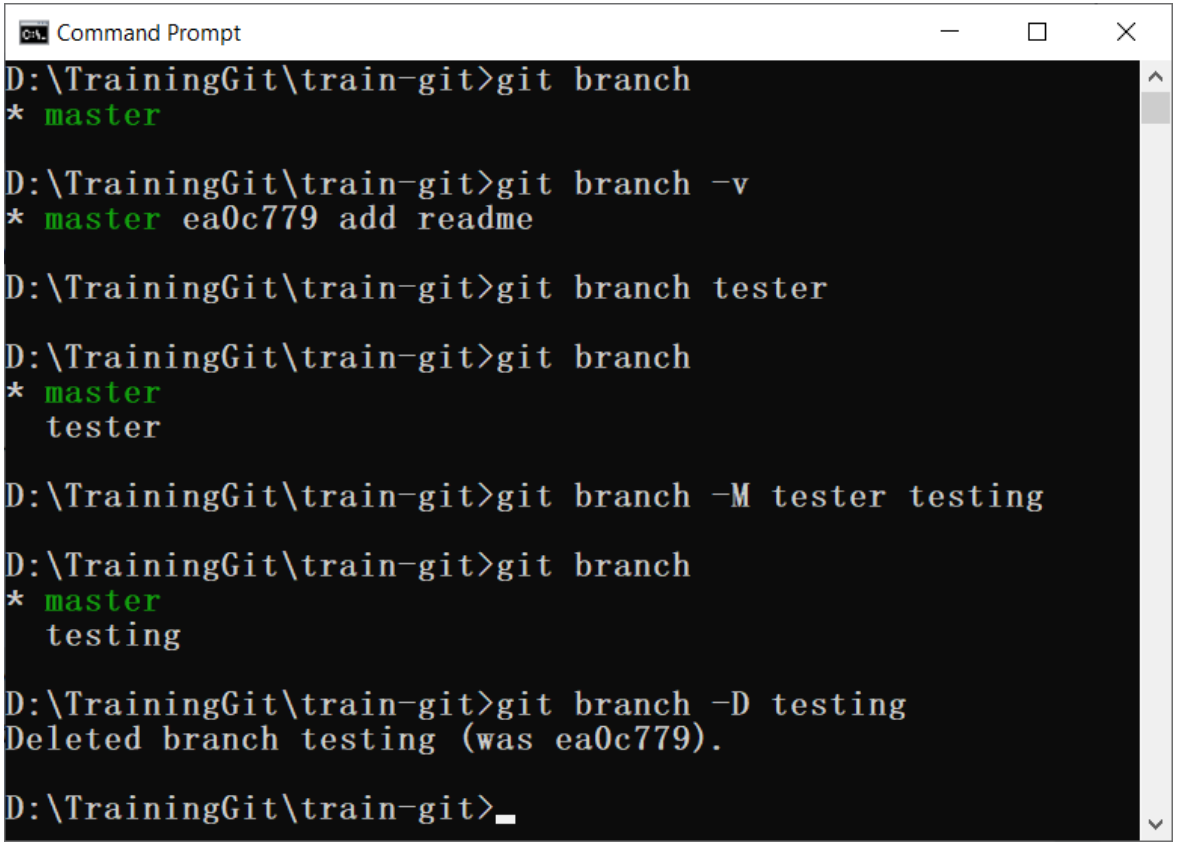


Git CLI

- Git Command
  - git branch
    - create
      - git branch branch-name
    - move/rename
      - git branch –M new-branch-name
    - delete
      - git branch –D branch-name
    - switch/change
      - git checkout branch-name

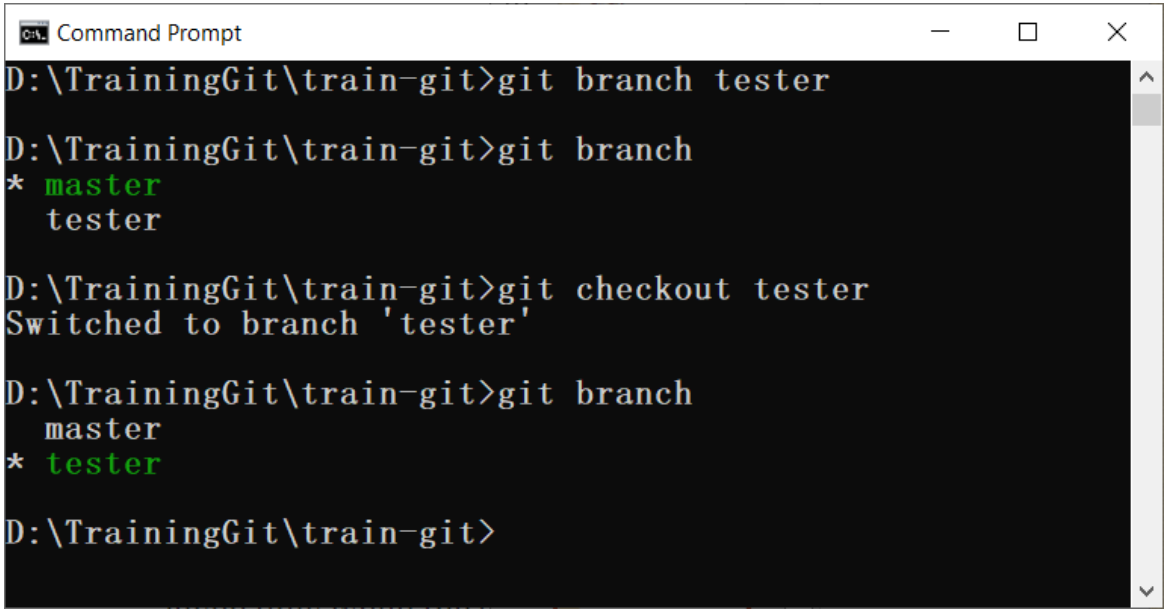
Git CLI

- Git Command
  - git branch



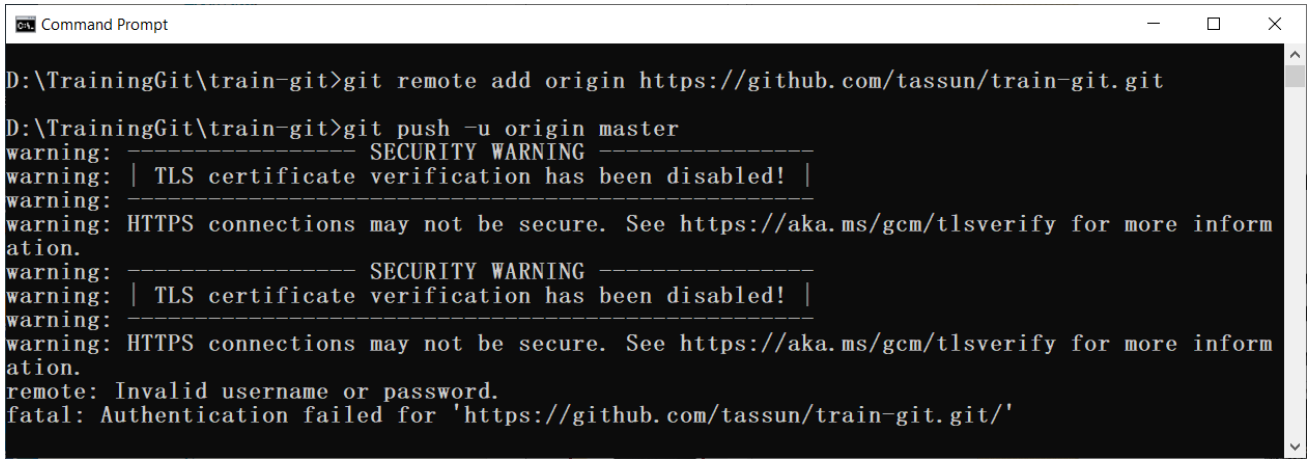
Git CLI

- Git Command
  - git branch



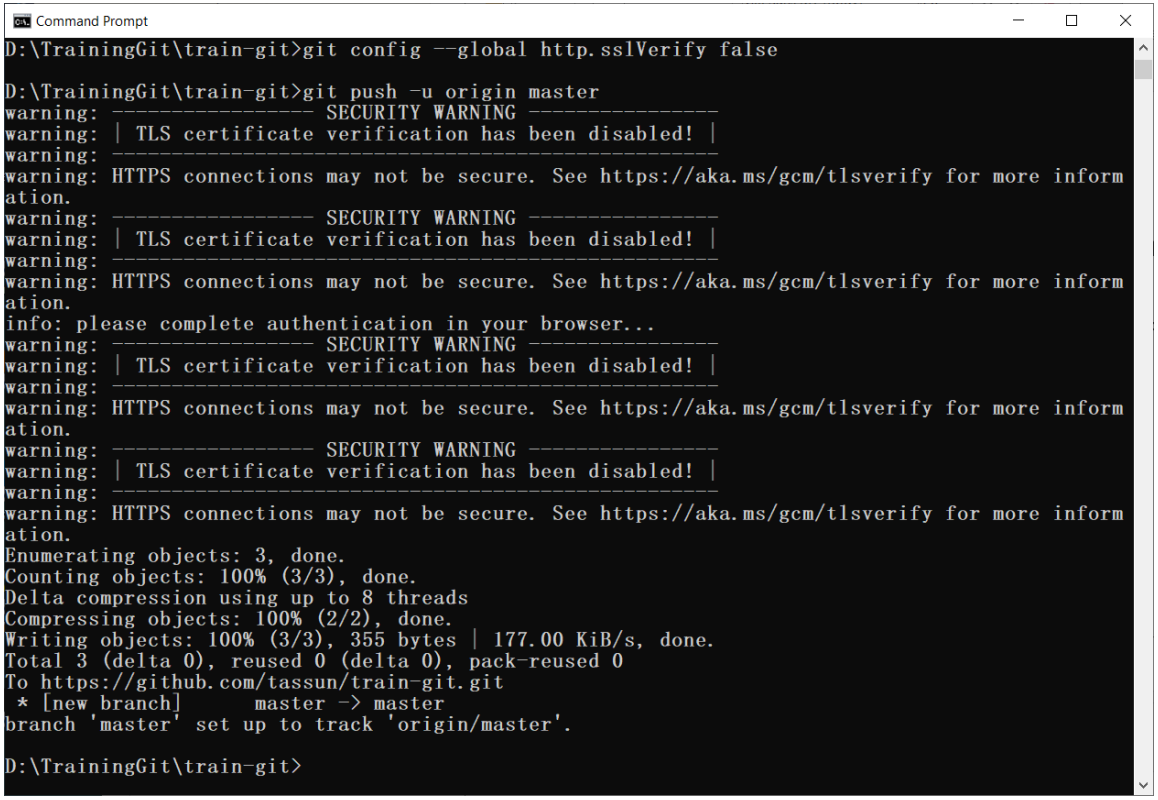
Git CLI

- Git Command
  - git push
    - git remote add origin https://github.com/user-name/repo-name.git
    - git push -u origin master



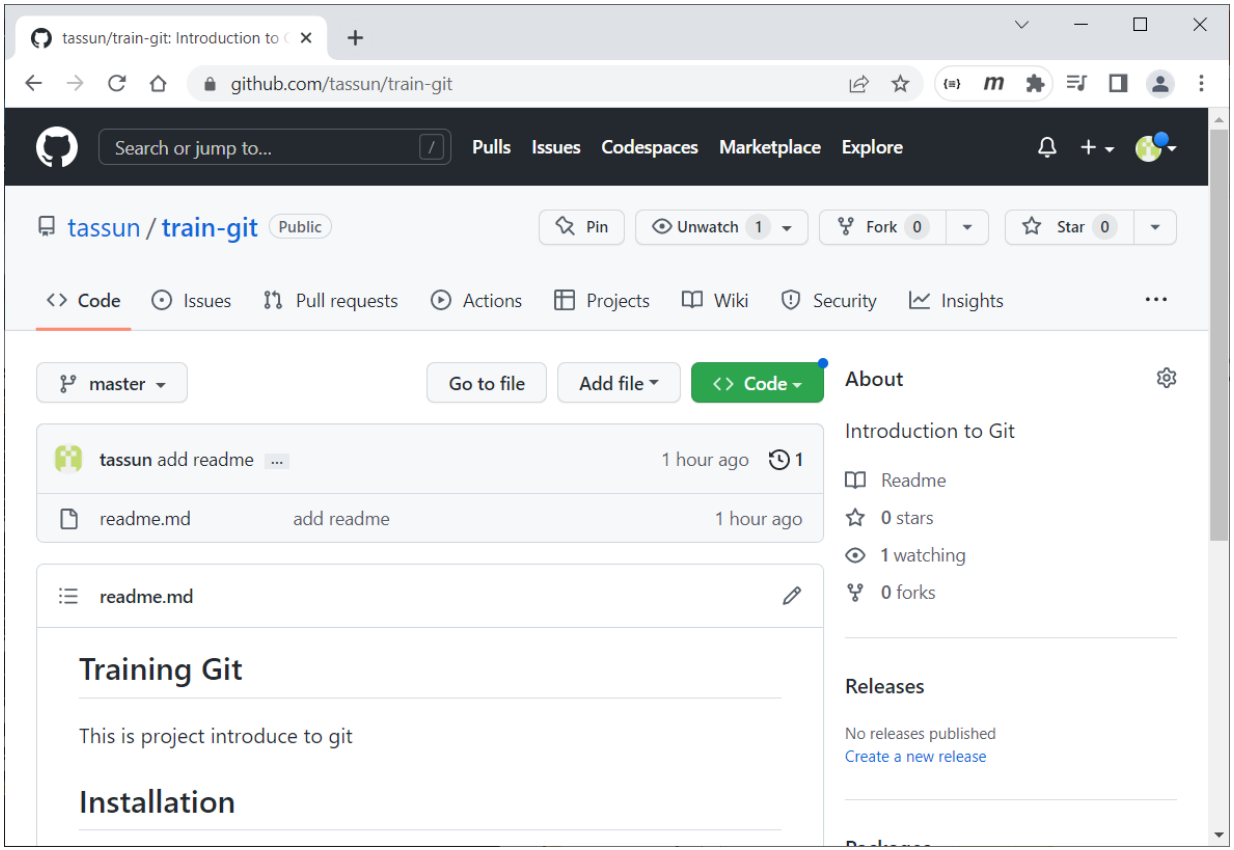
Git CLI

- Git Command
  - git push
    - git config --global http.sslVerify false



Git CLI

- Git Command
  - git push

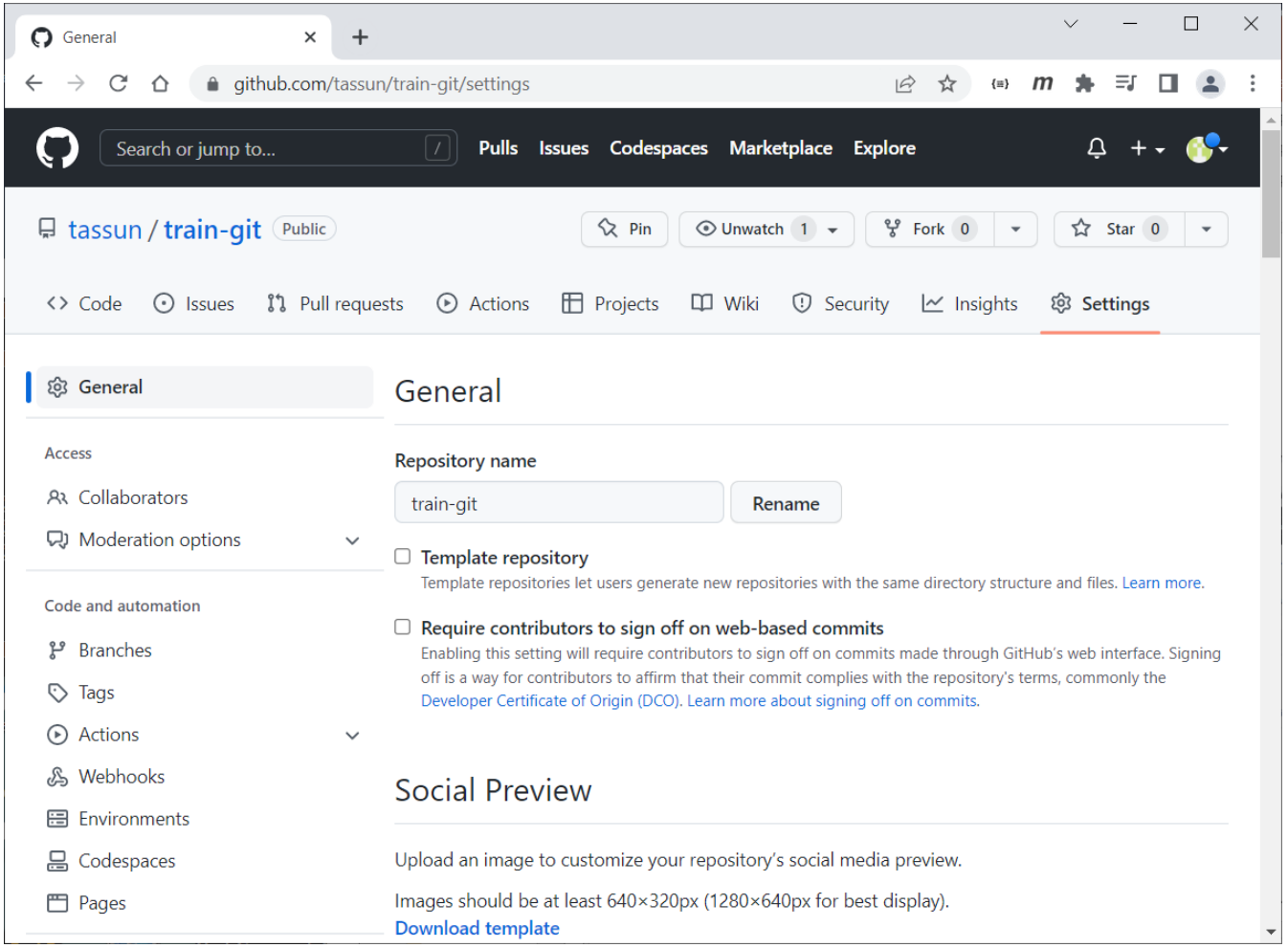


Git CLI

- Git Command
  - git clone
    - git clone https://github.com/user-name/repo-name.git

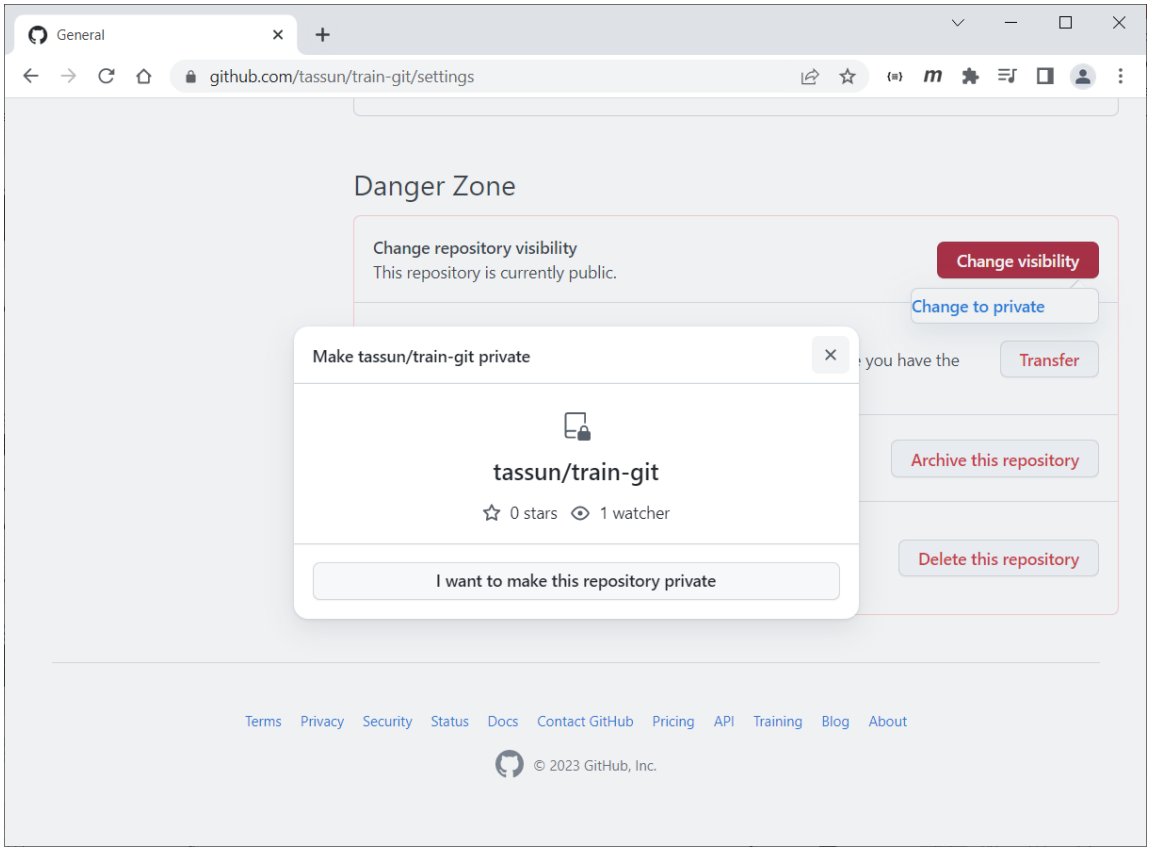
Git CLI

- GitHub Setting



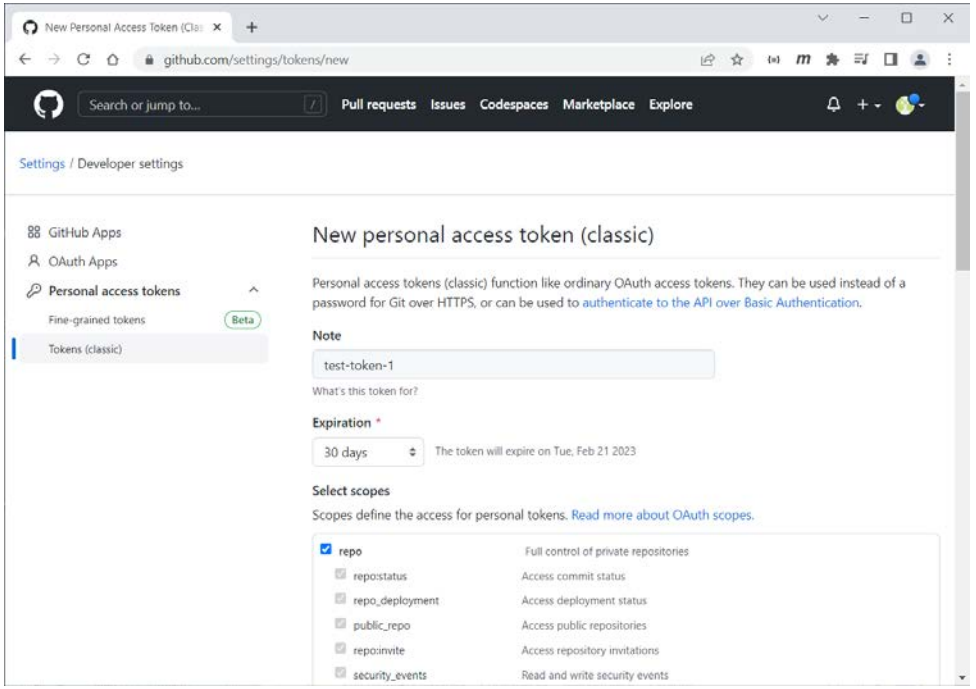
Git CLI

- GitHub Setting
  - try to change repository private/public



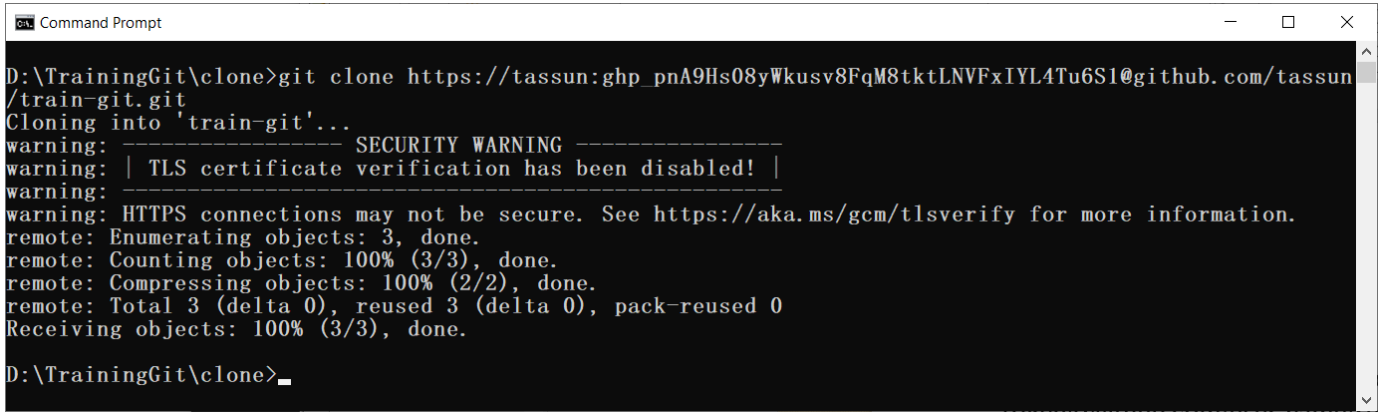
Git CLI

- Create Personal Access Token on GitHub
  - Settings -> Developer Settings
    - Person access tokens -> Tokens (classic)
      - Generate new token



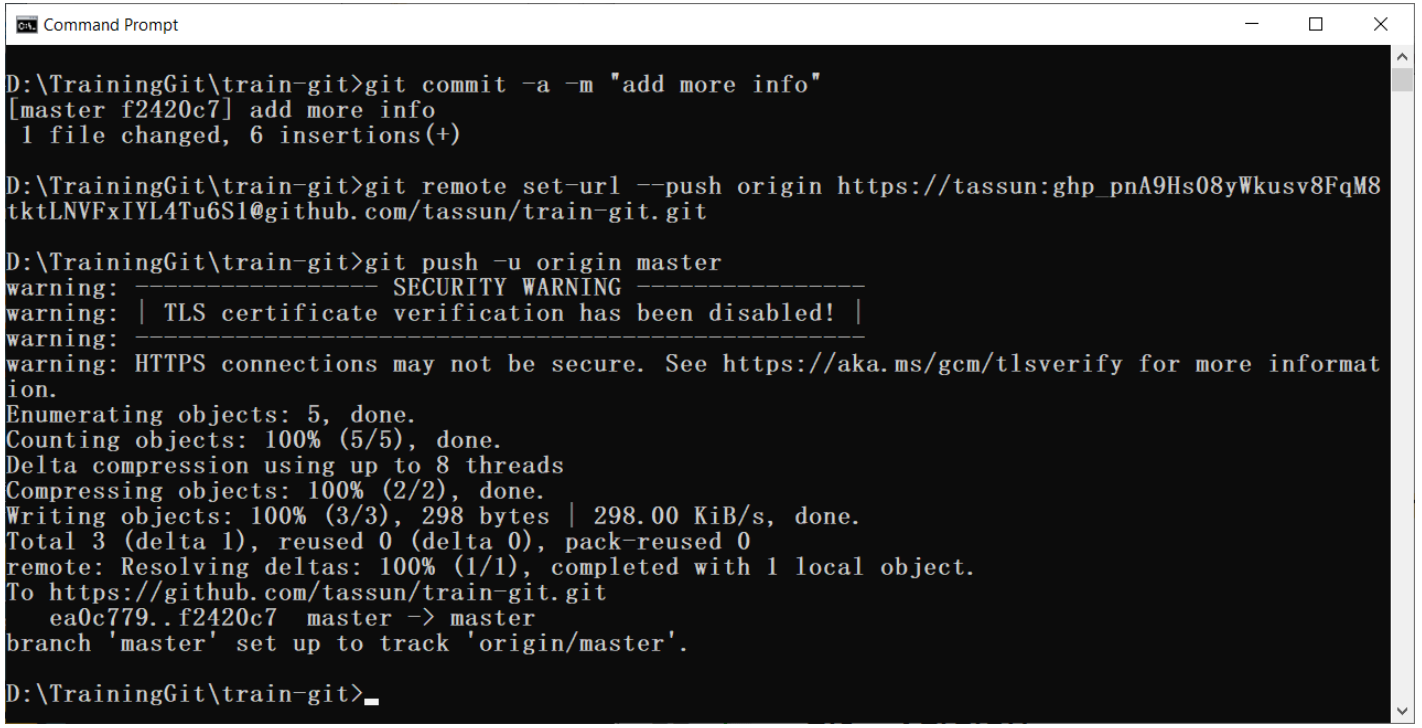
Git CLI

- Git Command
  - git hub token
    - git clone https://user-name:github-token@github.com/user-name/repo-name.git



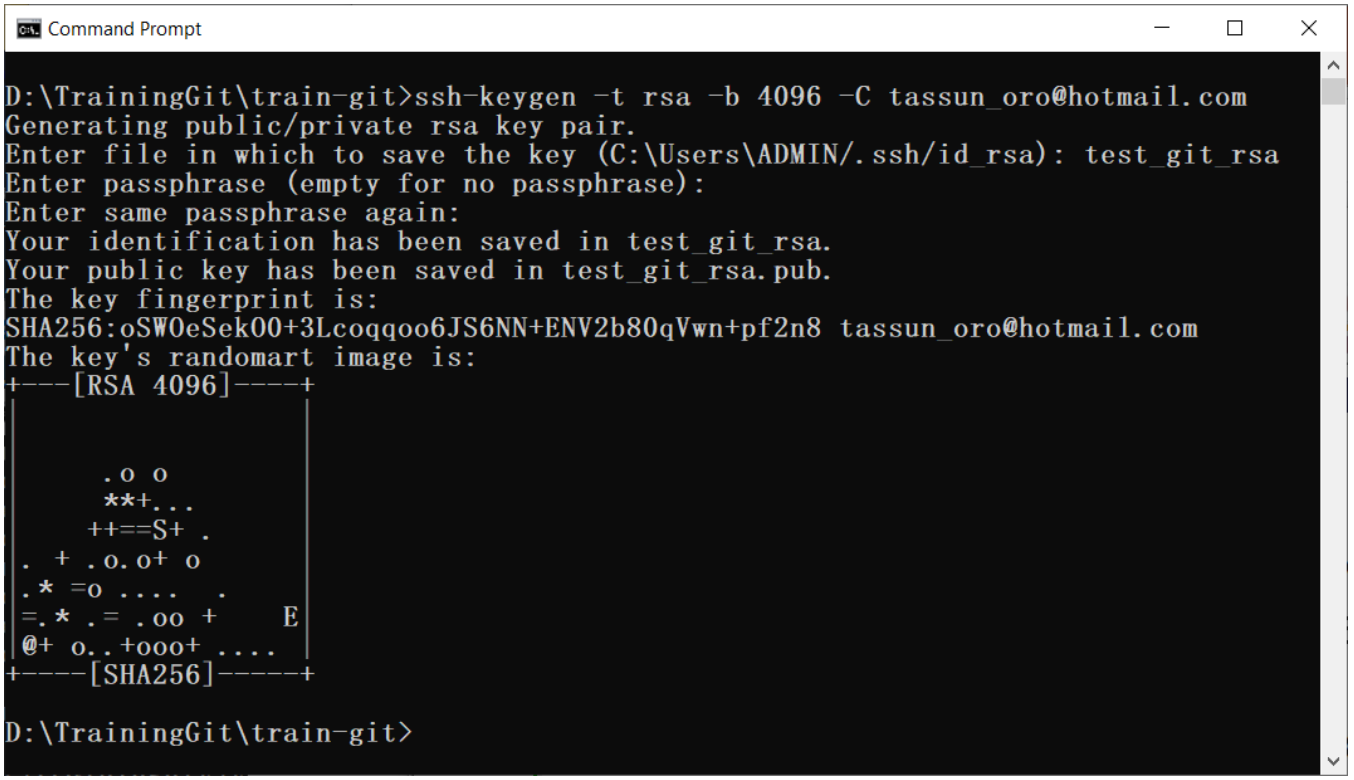
Git CLI

- Git Command
  - git hub token
    - try to edit readme.md then commit & push changed



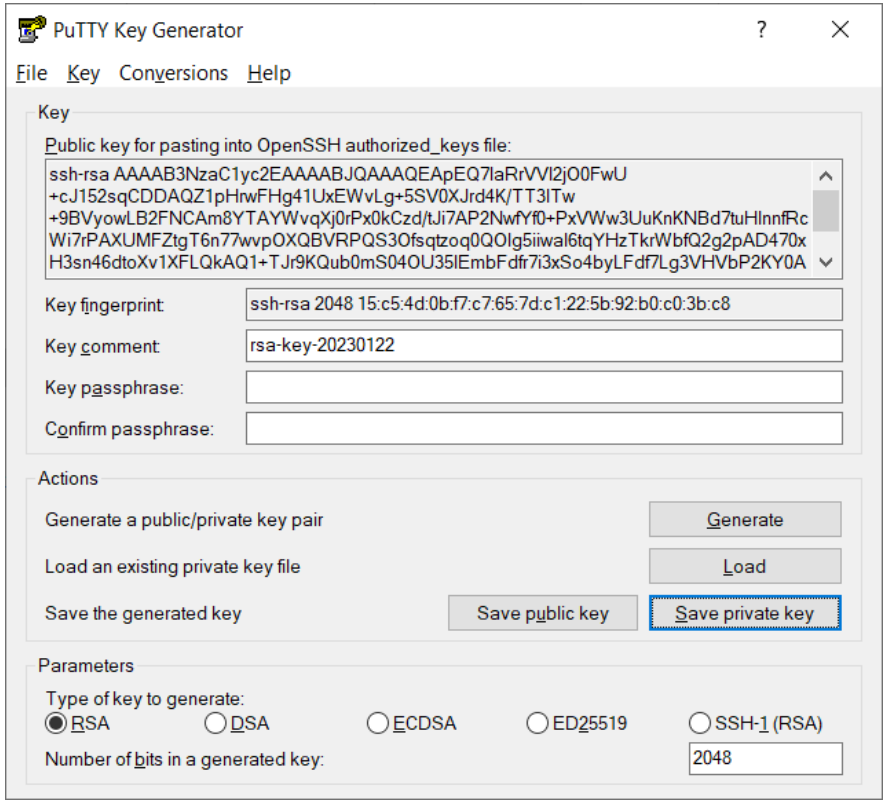
Git CLI

- Git Command
  - git ssh key
    - ssh-keygen -t rsa -b 4096 -C "email@example.com"



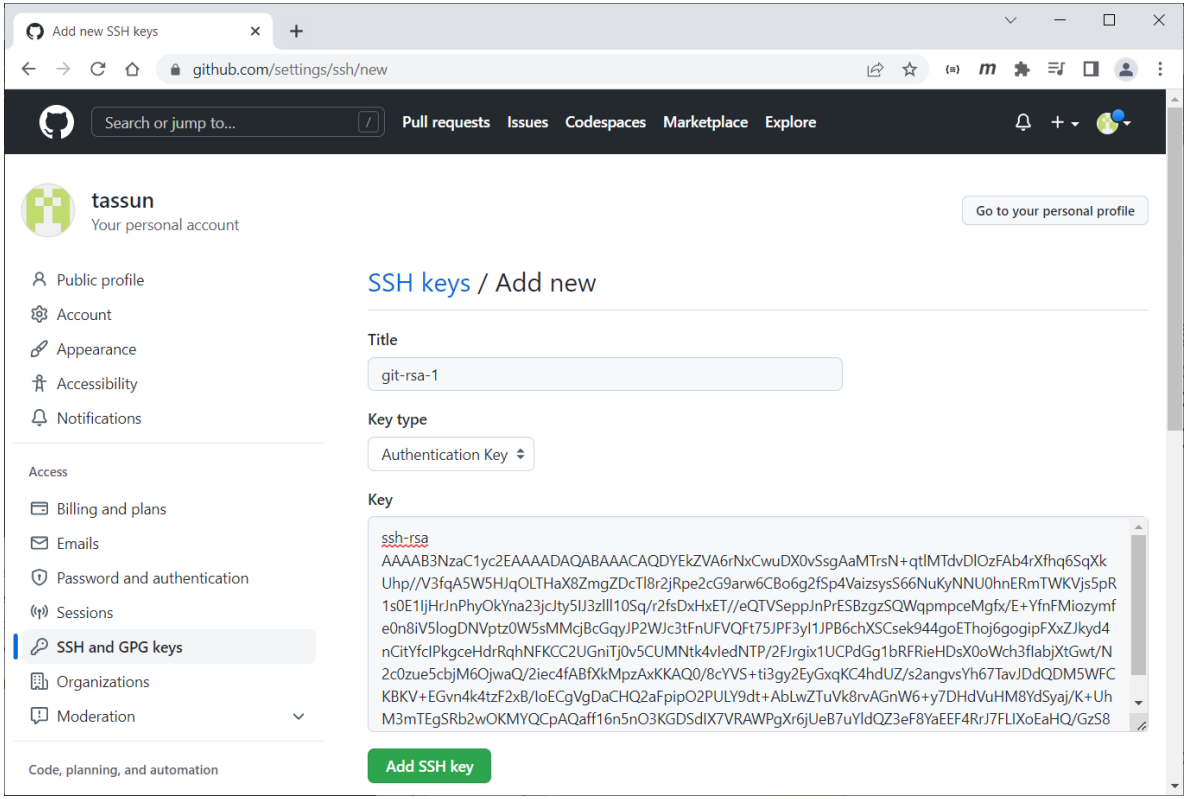
Git CLI

- Git Command
  - git ssh key
    - putty key generator



Git CLI

- Add new SSH keys on GitHub
  - Settings -> SSH and GPG keys
    - SSH keys -> New SSH key

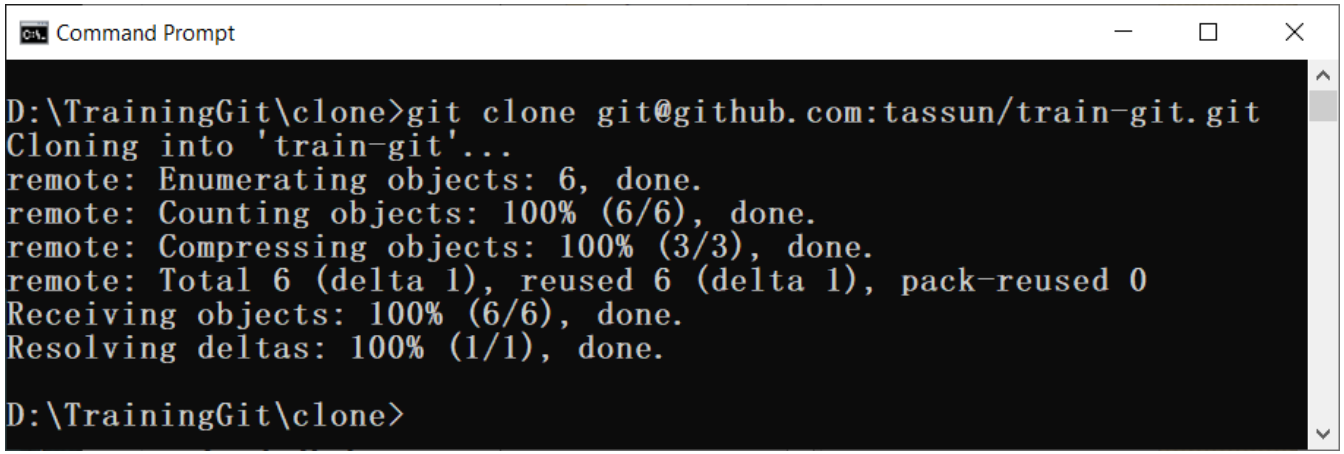


Git CLI

- Git Command
  - git ssh key testing

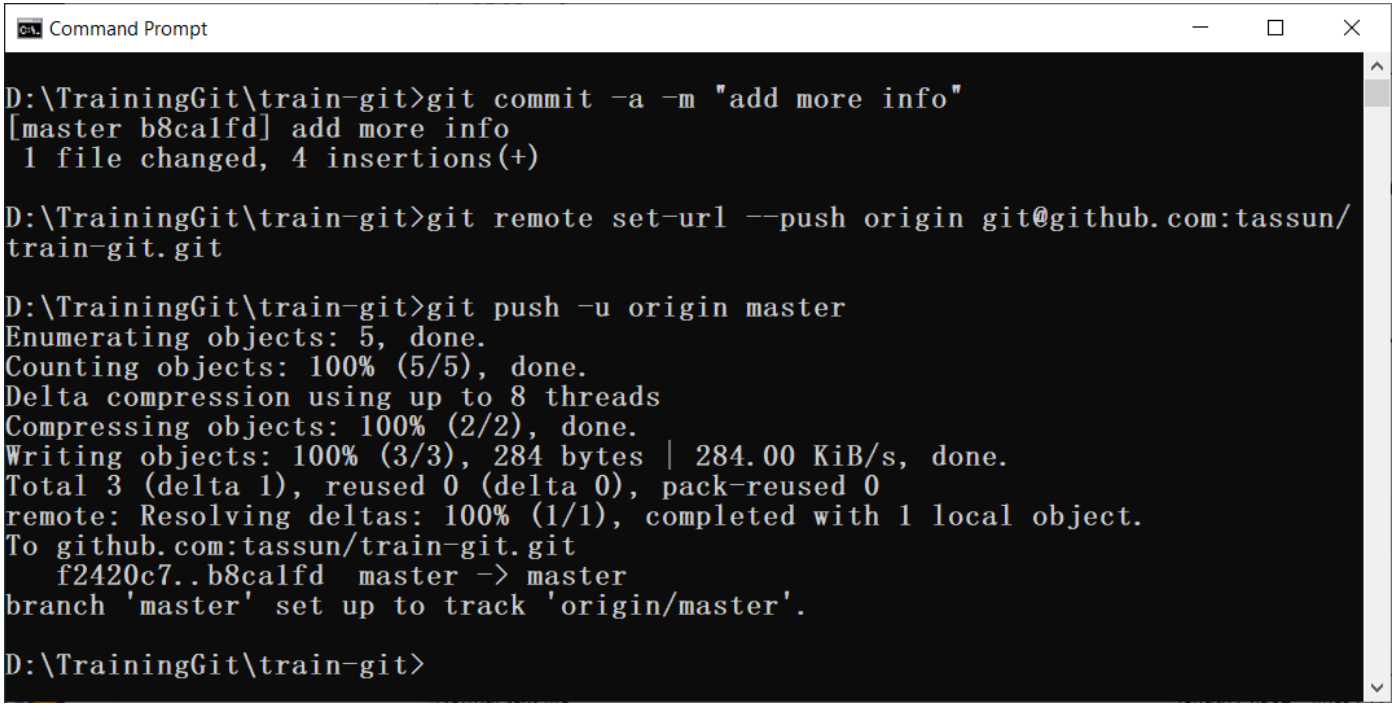
Git CLI

- Git Command
  - git ssh key
    - try to clone with ssh



Git CLI

- Git Command
  - git ssh key
    - try to edit readme.md then commit & push changed

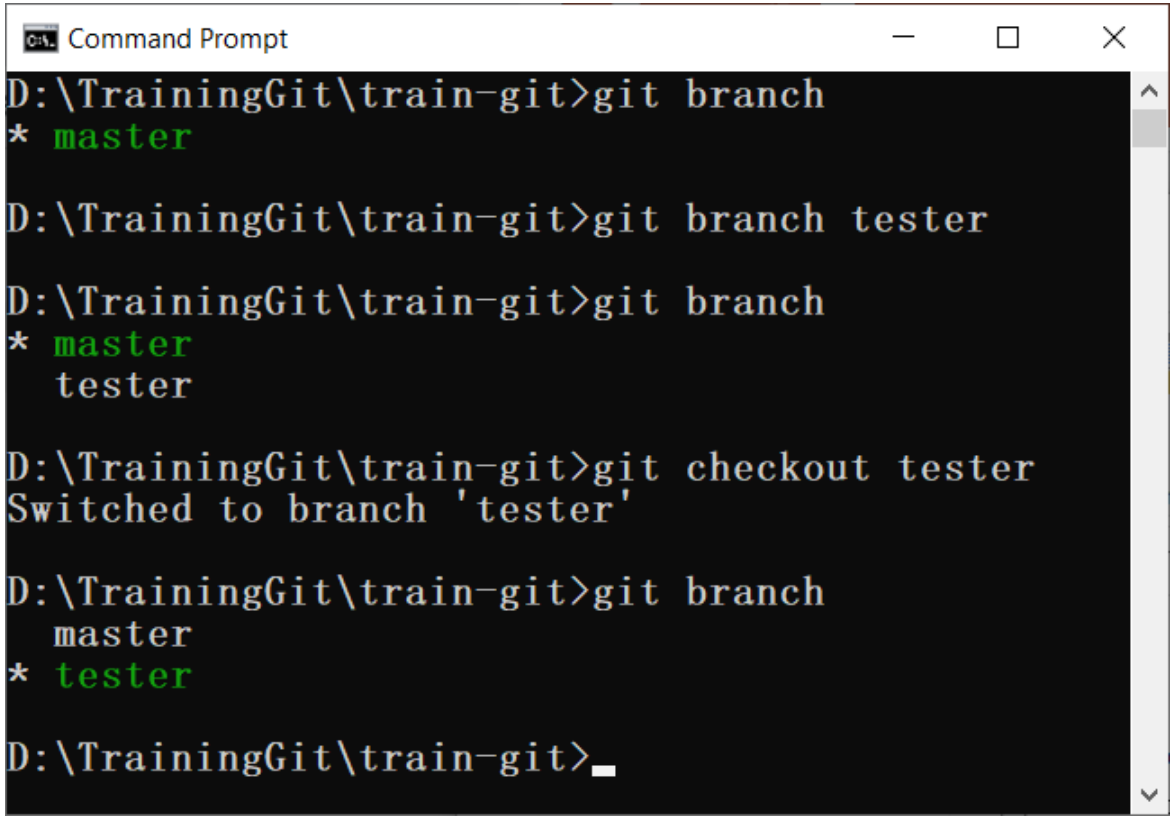


Git CLI

- Git Command
  - git fetch

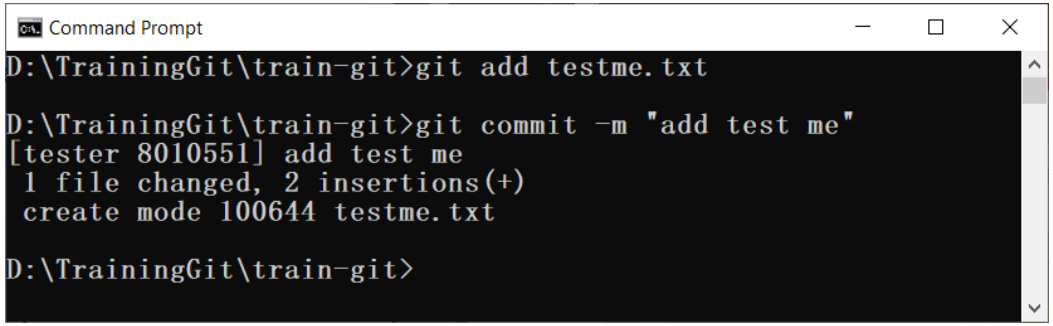
Git CLI

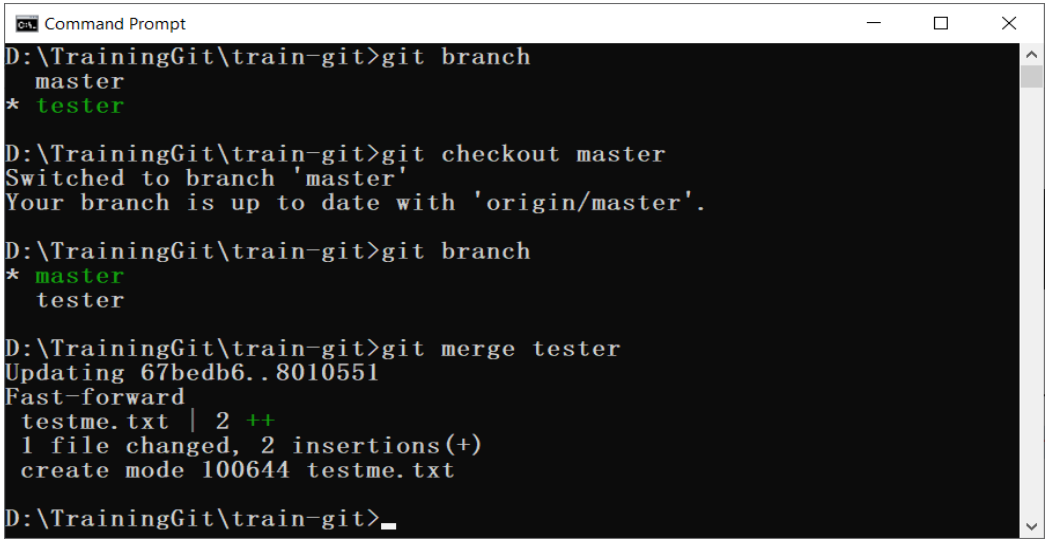
- Git Command
  - git merge



Git CLI

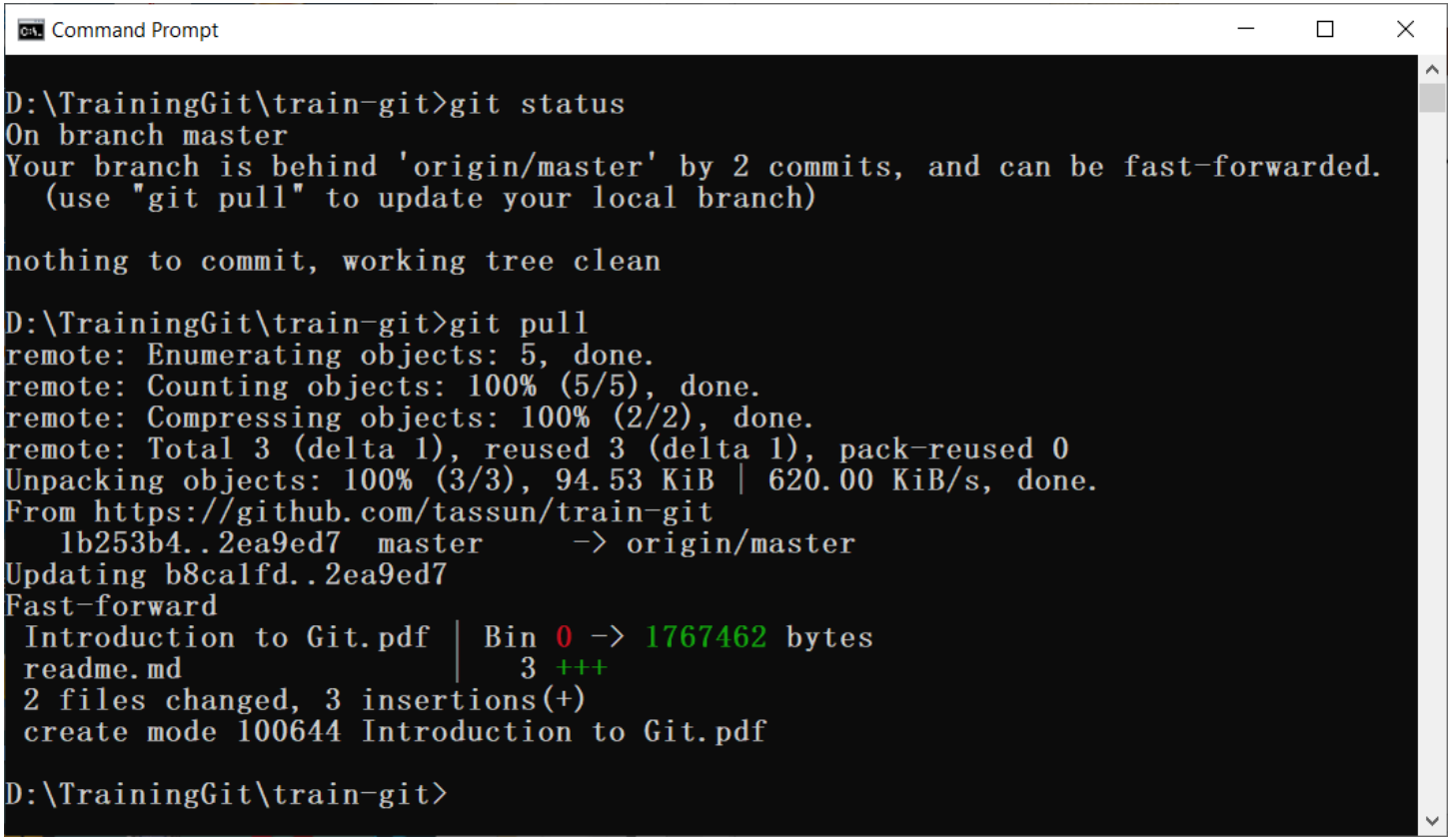
- Git Command
  - git merge





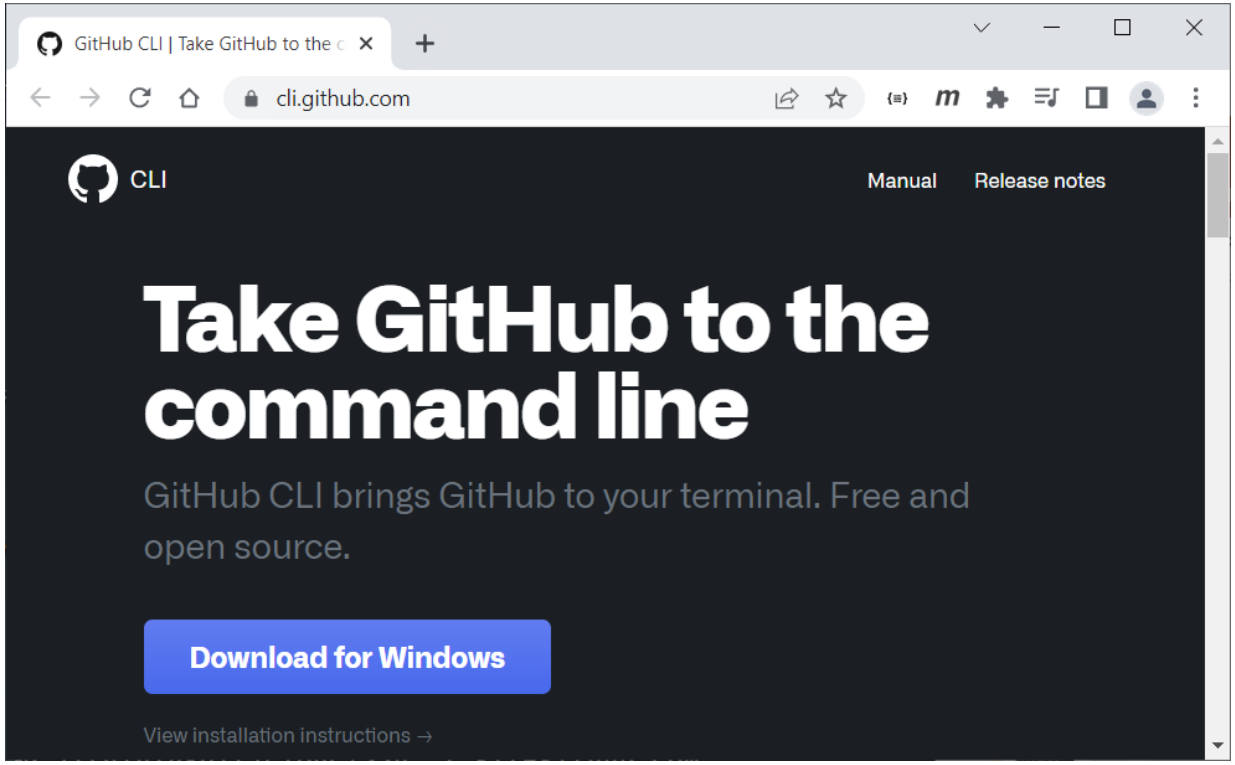
Git CLI

- Git Command
  - git pull (fetch + merge)



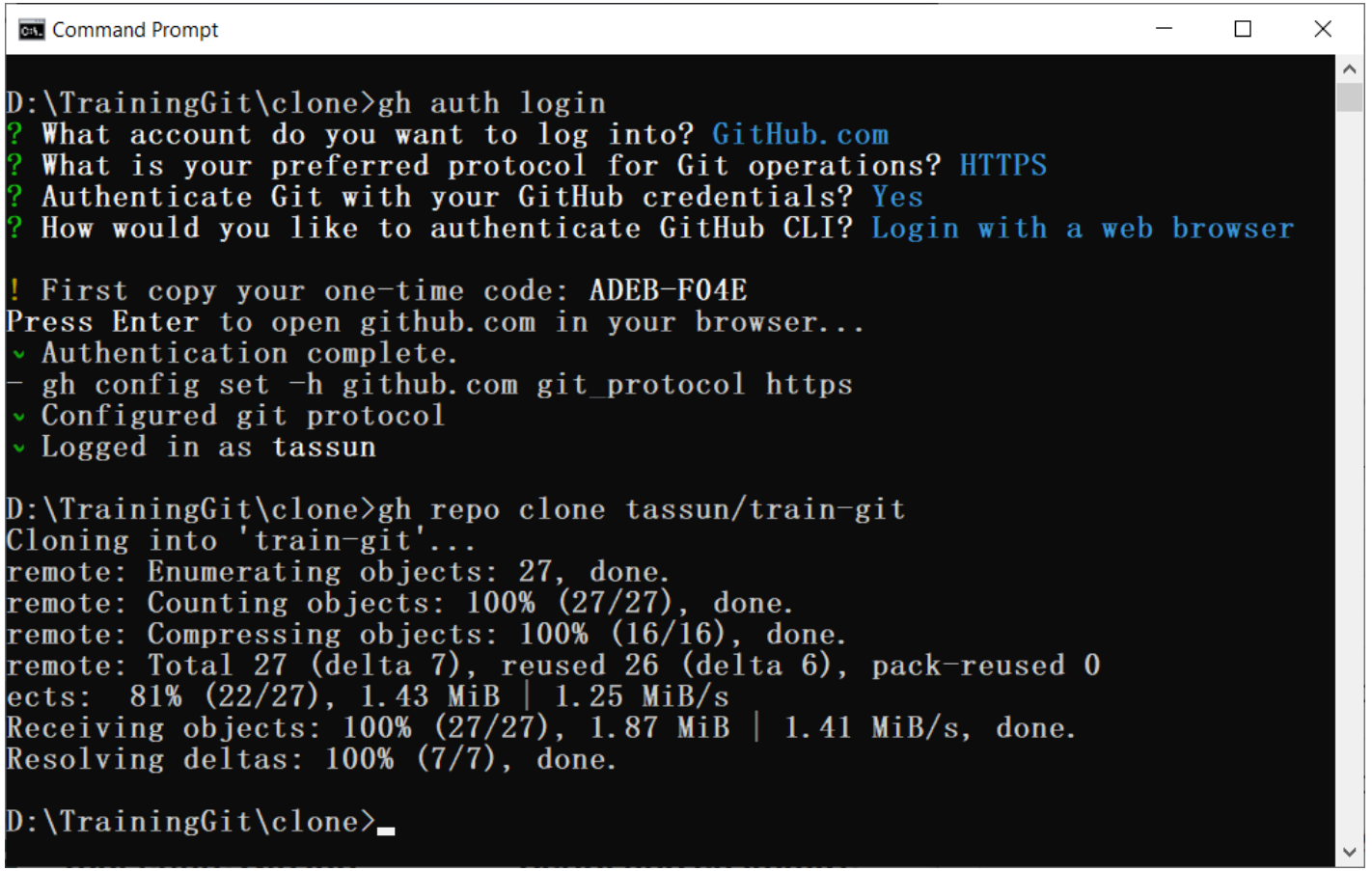
Git CLI

- GitHub CLI
  - Go to https://cli.github.com/
  - Download & Install



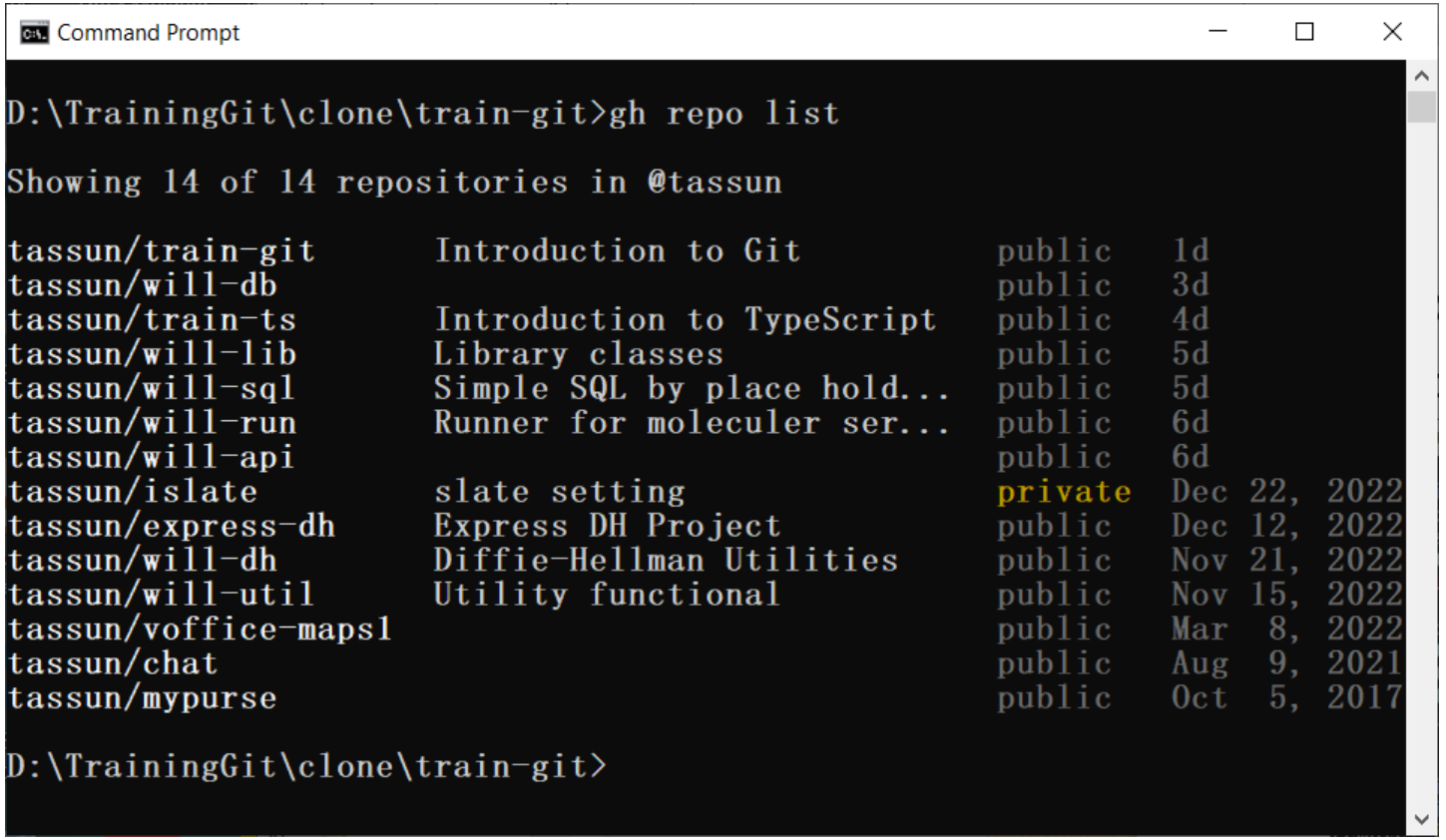
Git CLI

- GitHub CLI
  - try to login and clone



Git CLI

- GitHub CLI
  - list repository

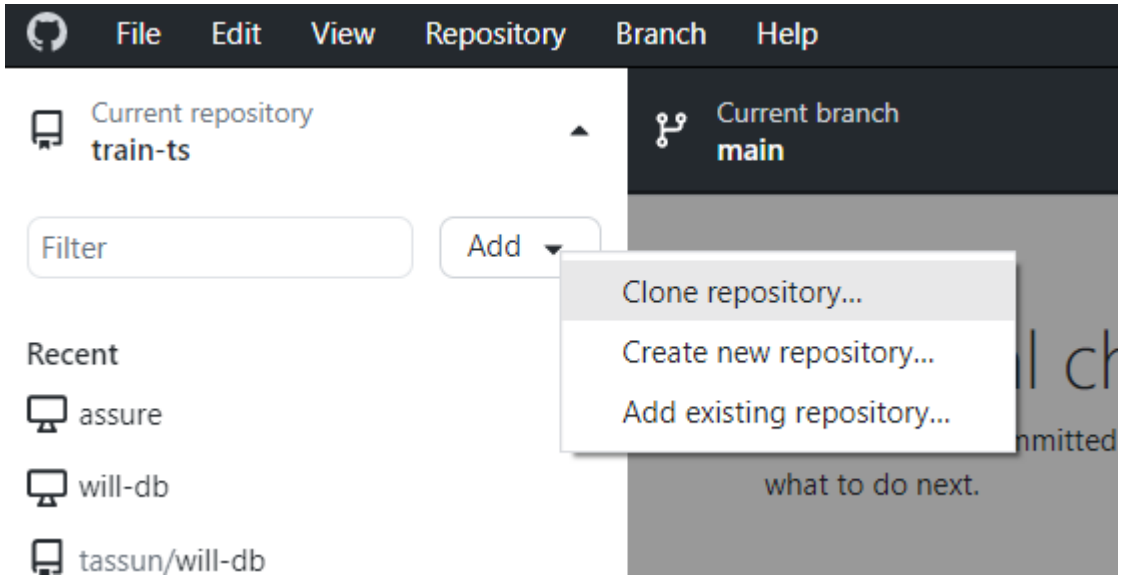


Git GUI

- Git Desktop
  - Go to https://desktop.github.com/
  - Download & Install

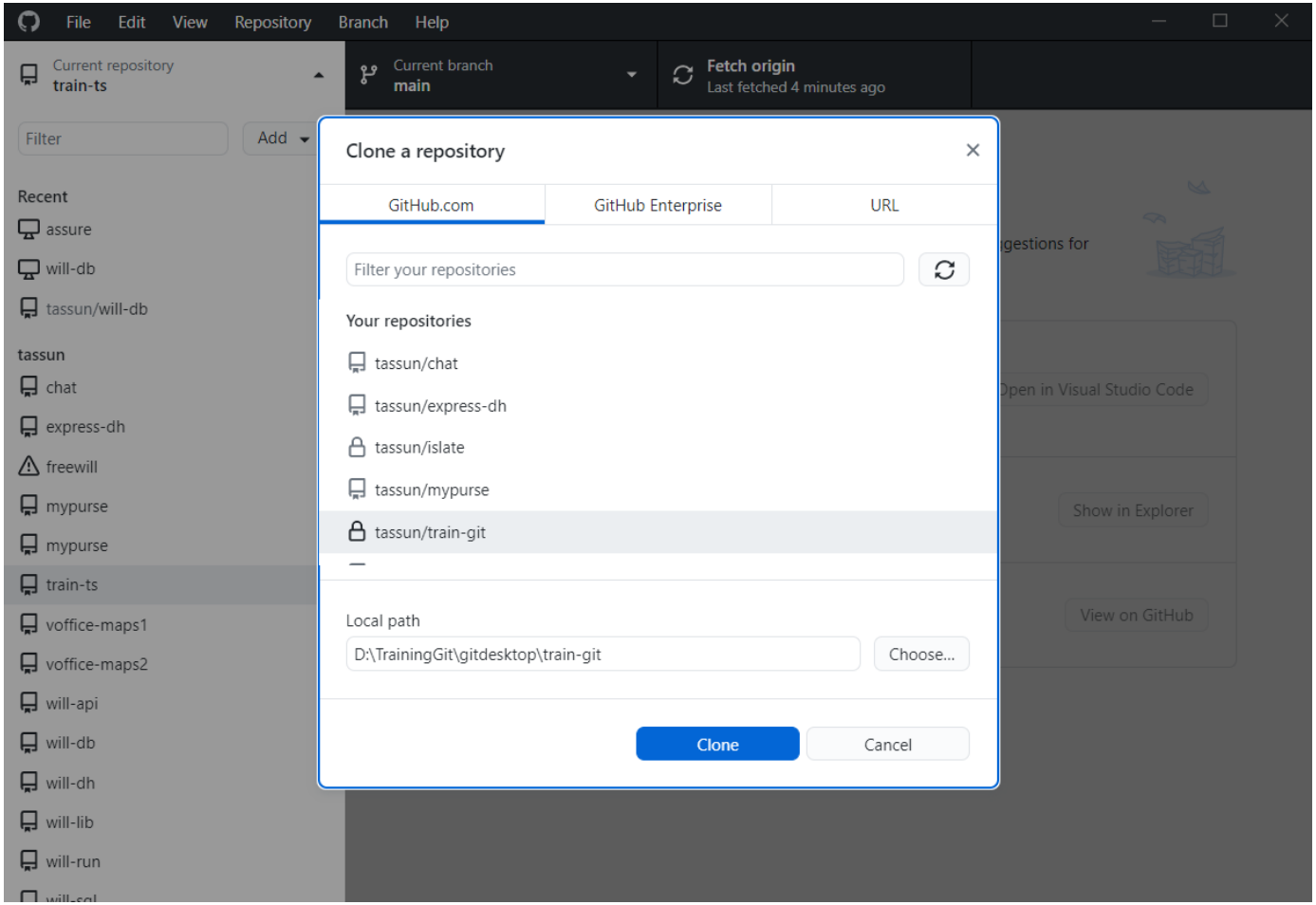
Git GUI

- Git Desktop



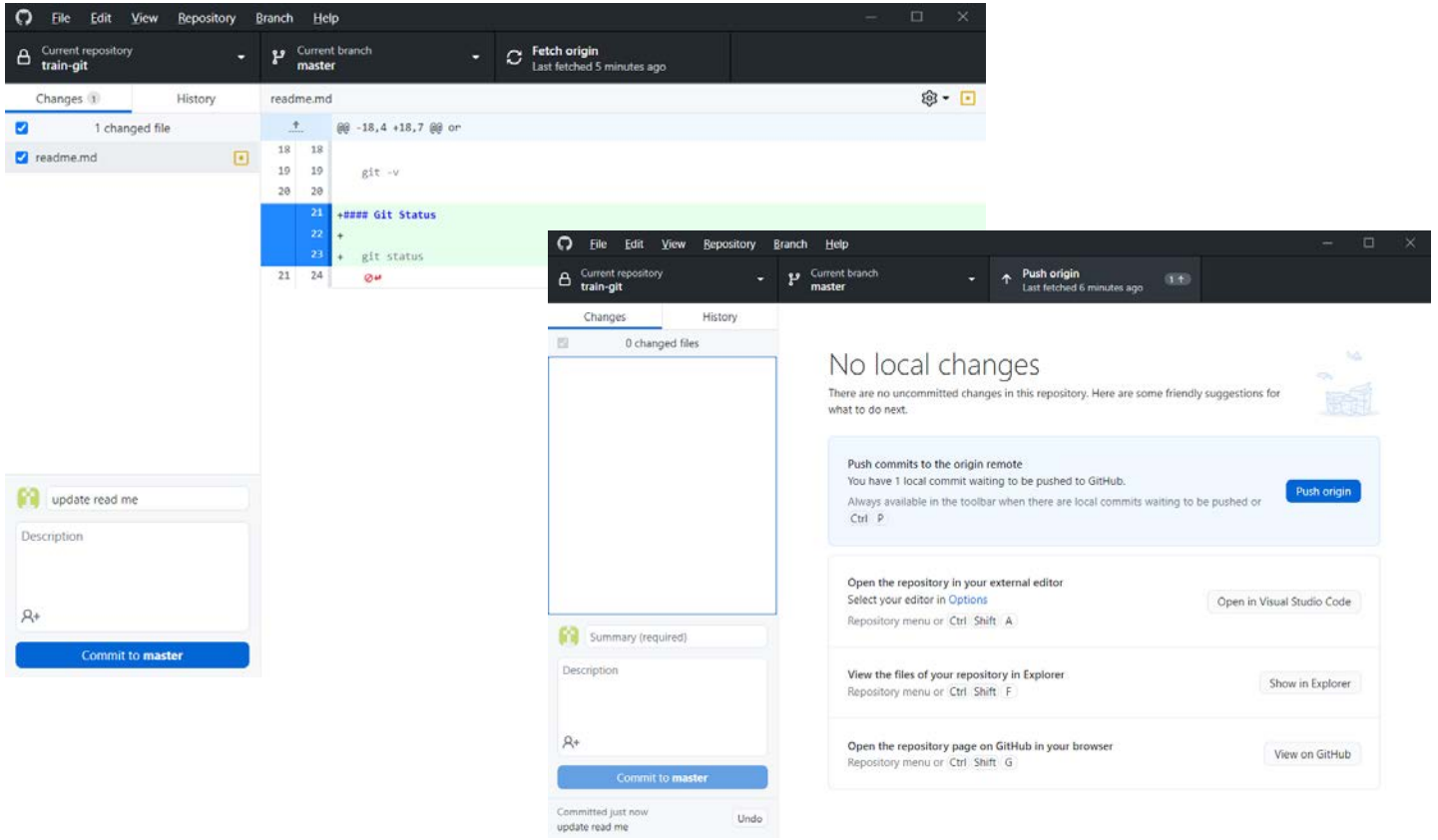
Git GUI

- Git Desktop



Git GUI

- Git Desktop
  - try to edit readme.md then commit & push

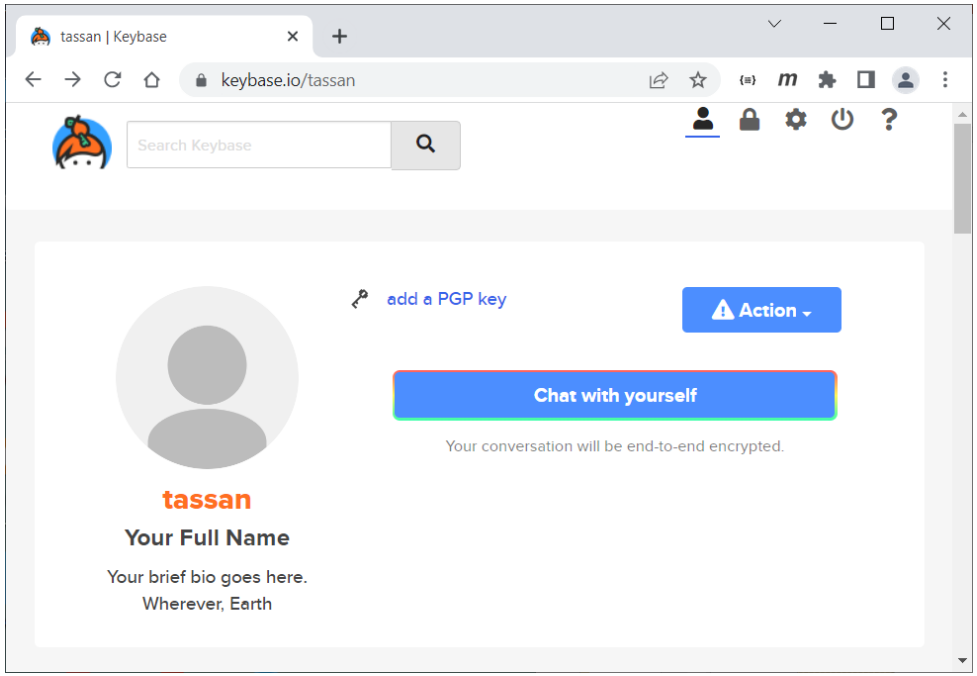


Git Sign

- GPG Key
  - Commit signature verification
    - can sign tags and commits locally
    - tags or commits are marked as verified
    - can be confident that the changes come from a trusted source

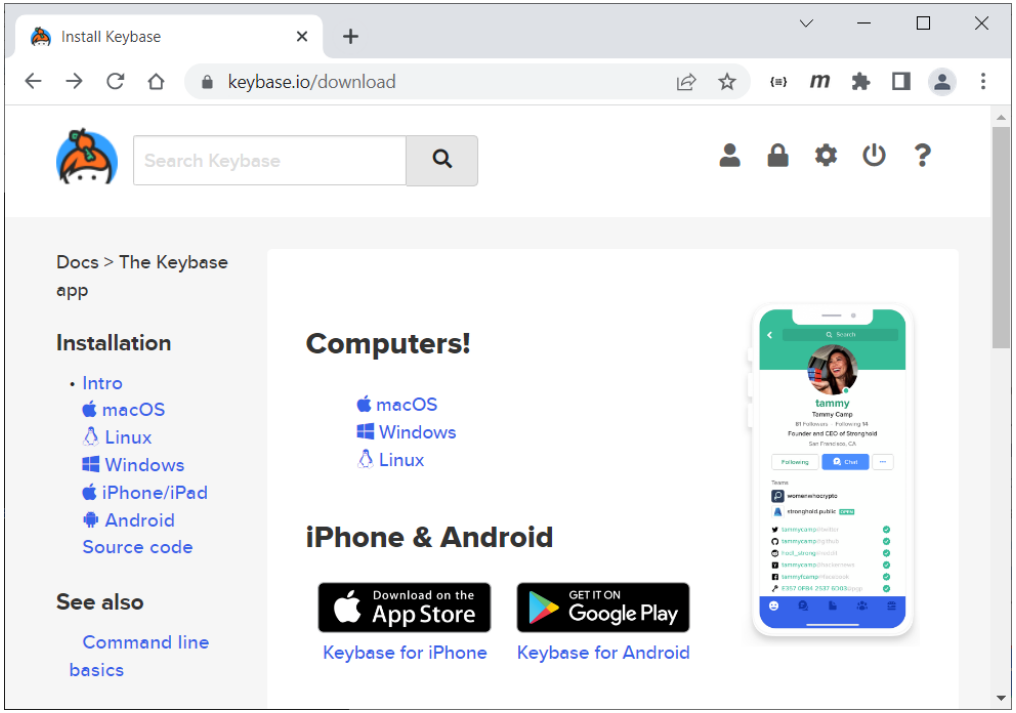
Git Sign

- GPG Key
  - Go to https://keybase.io/ register and add PGP key



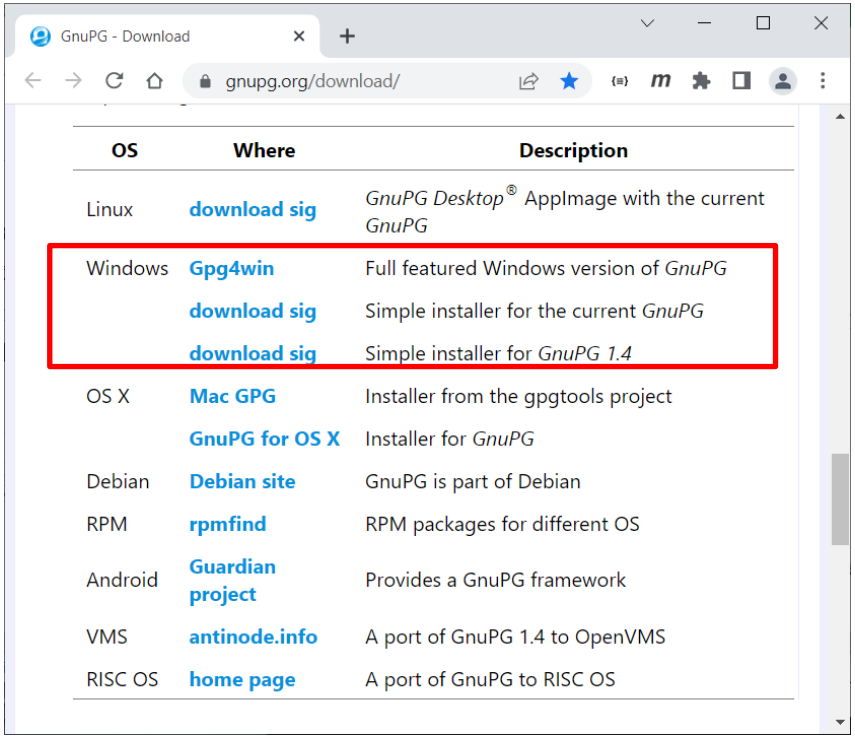
Git Sign

- GPG Key
  - Go to https://keybase.io/download/
  - Try to download and install



Git Sign

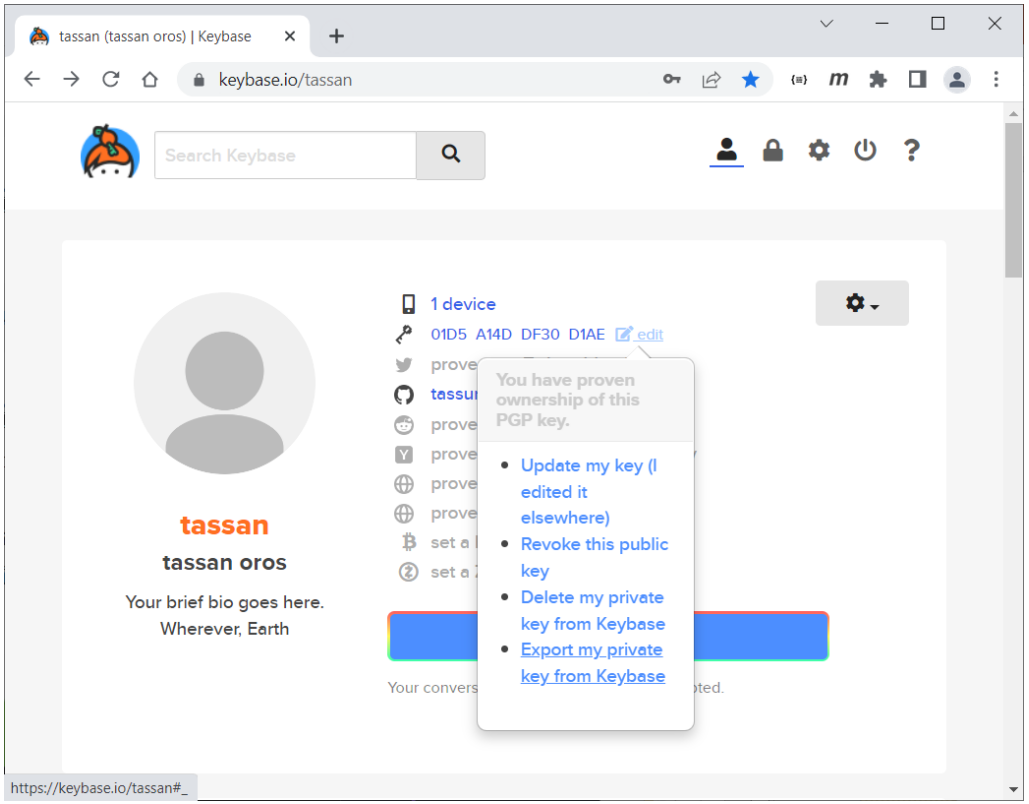
- GPG Key
  - Go to https://www.gnupg.org/download/
  - Try to download and install



OS	Where	Description
Linux	**download sig**	*GnuPG Desktop*® AppImage with the current *GnuPG*
Windows	**Gpg4win**	Full featured Windows version of *GnuPG*
	download sig	Simple installer for the current *GnuPG*
	download sig	Simple installer for *GnuPG 1.4*
OS X	**Mac GPG**	Installer from the gpgtools project
	GnuPG for OS X	Installer for *GnuPG*
Debian	**Debian site**	GnuPG is part of Debian
RPM	**rpmfind**	RPM packages for different OS
Android	**Guardian project**	Provides a GnuPG framework
VMS	**antinode.info**	A port of GnuPG 1.4 to OpenVMS
RISC OS	**home page**	A port of GnuPG to RISC OS

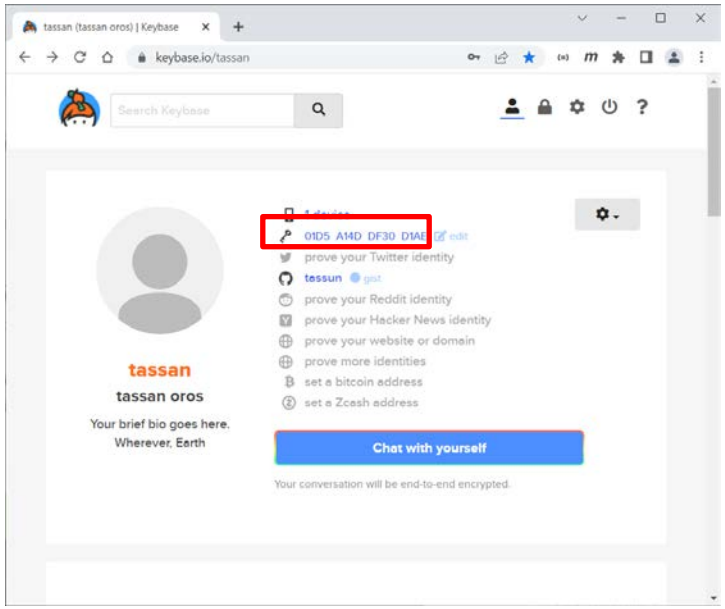
Git Sign

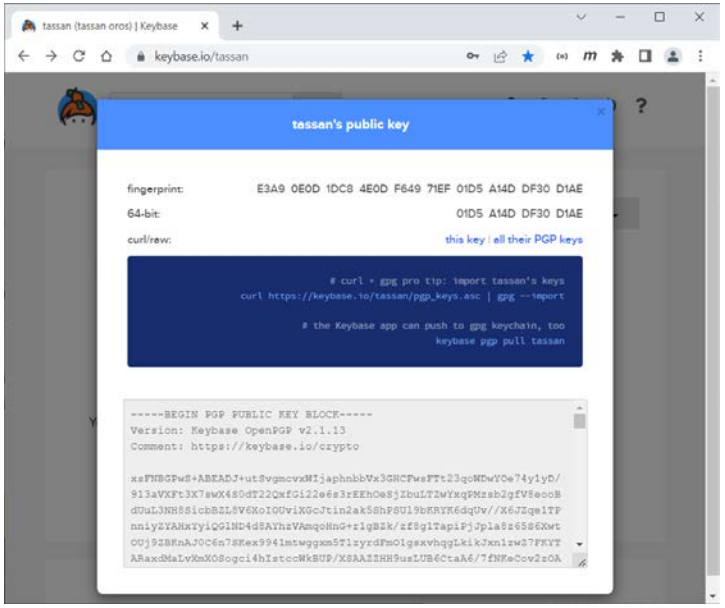
- GPG Key
  - Export private key from key base



Git Sign

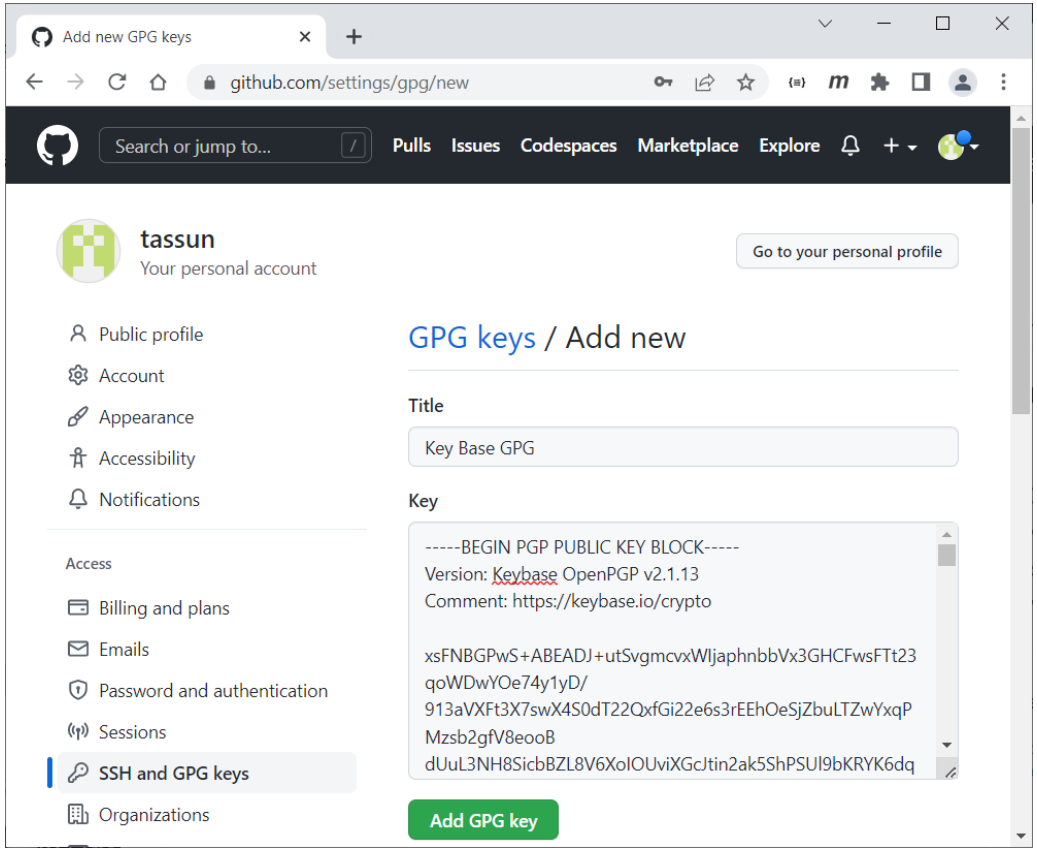
- GPG Key
  - Export public key from key base





Git Sign

- GPG Key
  - Add public key from key base to GitHub

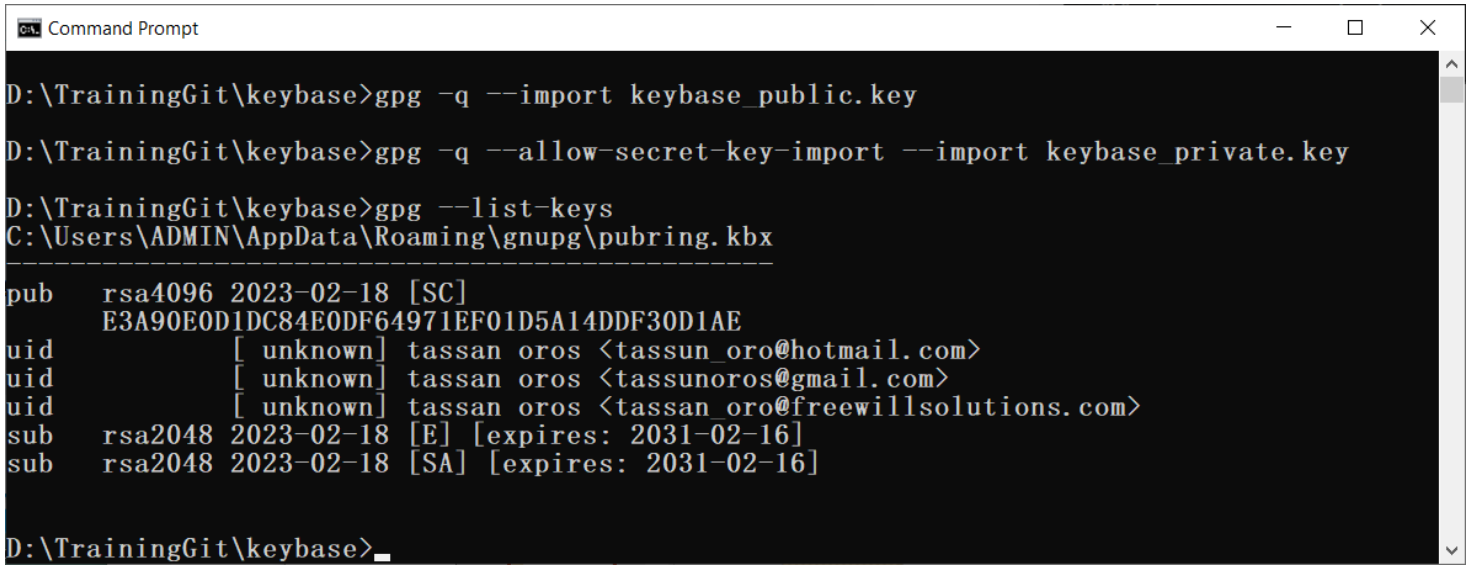


Git Sign

- GPG Key
  - Config git – using fingerprint as sign key

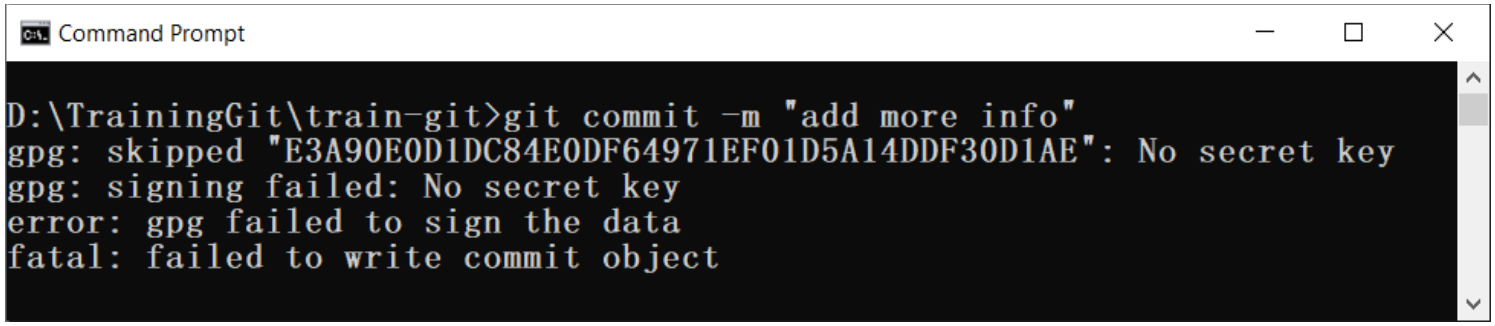
Git Sign

- GPG Key
  - Import public & private key on local host



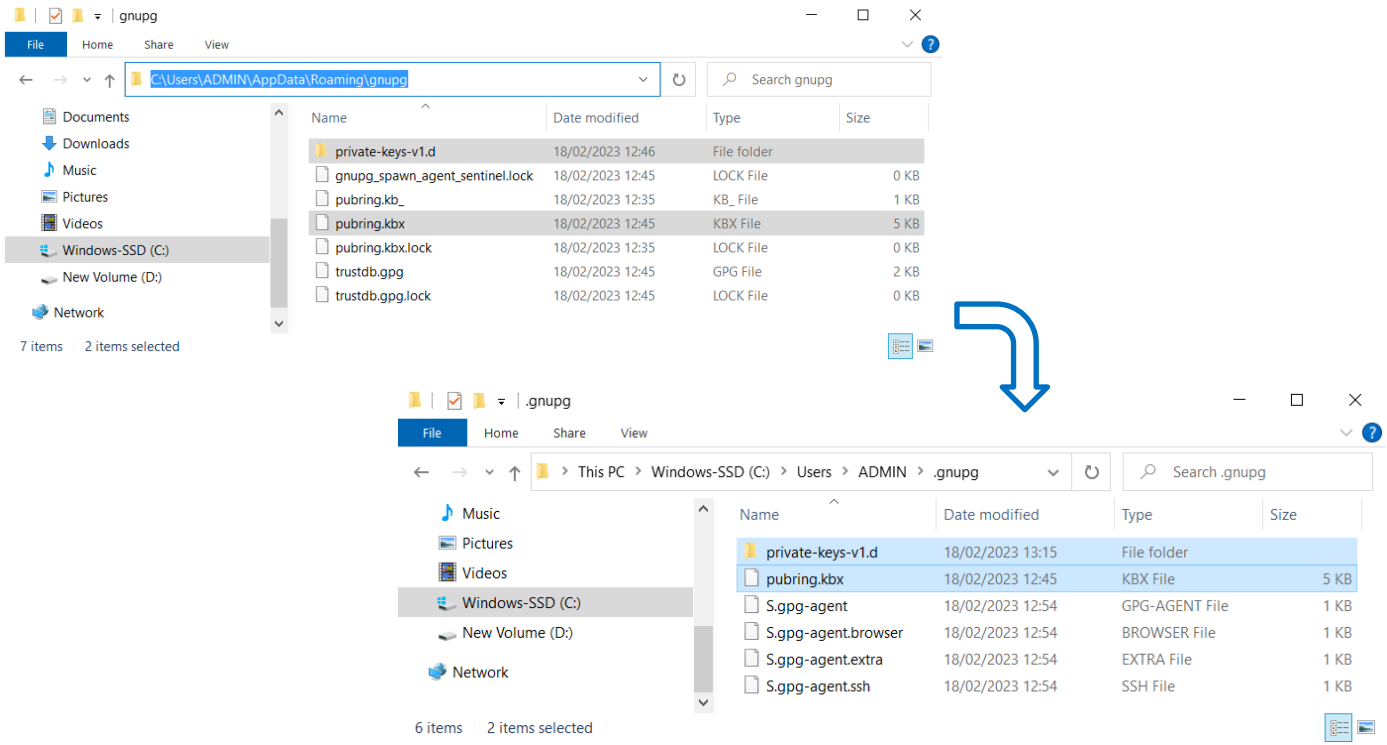
Git Sign

- GPG Key
  - Try to add, commit and push



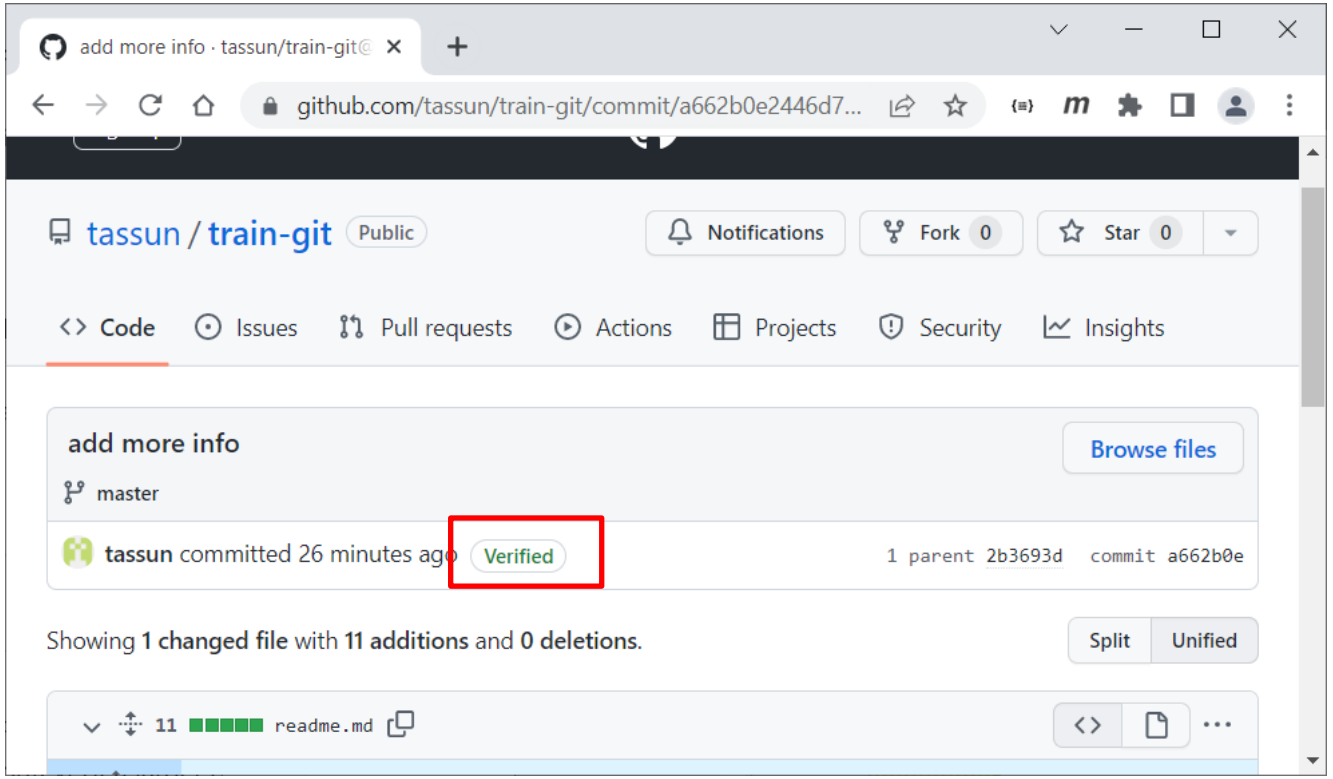
Git Sign

- GPG Key
  - Try to add, commit and push
    - Ensure pubring.kbx & private-keys-v1.d



Git Sign

- GPG Key
  - After push



Reference

- https://devahoy.com/blog/2015/08/introduction-to-git-and-github
- https://km.cc.swu.ac.th/archives/3606
- https://saixiii.com/what-is-github/
- https://devahoy.com/blog/2017/12/how-to-show-verify-sign-with-gpg
- https://docs.github.com/en/authentication/connecting-to-github-with-ssh
- https://mahasak.com/keybase-pgp-ssh-exports/
- https://docs.github.com/en/authentication/managing-commit-signature-verification

Q & A