

Lab 6 - Git

Steps

- ▶ Create account at github or other git service
- ▶ Set up SSH key locally
- ▶ Set up SSH key at github
- ▶ Configure remote git repo
- ▶ Configure local git repo
- ▶ Set up gitg

Set up SSH key

- ▶ `$ ls -al ~/.ssh` - Lists the files in your .ssh directory, lets us check for existing SSH keys. Looking for stuff like
 - ▶ `id_dsa.pub`
 - ▶ `id_ecdsa.pub`
 - ▶ `id_ed25519.pub`
 - ▶ `id_rsa.pub`
- ▶ Generate a new key
 - ▶ `$ ssh-keygen -t rsa -C "your_email@example.com"`
 - ▶ When prompted, save the file as `/Users/you/.ssh/id_rsa`
 - ▶ Enter a passphrase that you'll remember (you'll be asked for it twice)
 - ▶ Ensure ssh-agent is enabled: `$ eval "$(ssh-agent -s)"`
 - ▶ Add SSH key to ssh-agent: `$ ssh-add ~/.ssh/id_rsa`
- ▶ Copy contents of `~/.ssh/id_rsa.pub` to github (user page → gear icon → SSH Keys → Add SSH key)

Configure remote git repo

- ▶ Go to your user page
`github.com/<yourusername>?tab=repositories`
- ▶ "New" button
- ▶ Name the repository (eg `448_Lab06`, this will be a folder name on your computer)
- ▶ (optinal) select "Initialize this repository with a README"
- ▶ (optinal) add a `.gitignore` file
- ▶ "Create repository"

Configure local git repo

- ▶ (at github) Copy "HTTPS clone URL" test
- ▶ In terminal, navigate to where you want the folder for your project (eg, `$ cd ~/eecs448/`)
- ▶ Clone git repo from github:

```
git clone https://github.com/<username>/<project>.git
```

Set up gitg

- ▶ Start `gitg`
- ▶ Open the directory you cloned to in `gitg`
- ▶ File → Repository Properties → Configuration → Set Name and E-mail → Close

Git concepts

Key commands:

- ▶ clone - copies the entire history of that project so you have it locally and it will give you a working directory of the main branch of that project
- ▶ pull - synchronize you with another repo (git fetch) and then merges your local branch with the server's copy of the branch that you are working on (git merge)
- ▶ add & commit - add files to send to the server (git add) and then commit to sending them to the server with a message describing what you changed (git commit)
- ▶ push - send committed files to the server

tip: launch gitg from terminal because it doesn't seem to have a popup for logging into github

Other git clients

- ▶ `git` (command line)
- ▶ SourceTree (windows, osx) - I use this one
- ▶ GitHub Windows (windows) - official github client, too simple, imo
- ▶ GitHub Mac (osx) - same as GitHub Windows

Other clients: <http://git-scm.com/downloads/guis> (free and non-free)

Very handy git reference: <http://gitref.org/>