git

Outline

- Install Git
- Sign up an account on GitHub
- Generate an SSH key pair
- Config SSH Key on GitHub
- Create a repo on GitHub and clone a repo on GitHub to your local machine
- Commit changes and push changes from your local machine to GitHub

What is git?

- Git is a fast, scalable, distributed revision (or version) control system with an unusually rich command set that provides both high-level operations and full access to internals.
- Git was created by Linus Torvalds in 2005 for development of the Linux kernel, with other kernel developers
- Git is a command line tool. Although there are many GUI clients for git, the command line is the only place you can run all git commands.

If you mainly work on your local computer,
please download git from
https://git-scm.com/downloads
and install it on your machine.

Git Installation Options for Windows

Step	Option
Select Components	Windows Explorer integration Git Bash Git LFS (Large File Support)
Adjusting your PATH environment	Git from the command line and also from 3rd-party software
Choosing the SSH executable	Use OpenSSH Otherwise, select Plink if you are familiar with it.
Configuring the line ending conversations	Checkout Windows-style, commit Unix-style line endings
Choosing default behavior of 'git pull'	Default (fast-forward or merge)
Choose a credential helper	Git Credential Manager Core
In brief, the default options should be sufficient in most cases.	

GitHub

- GitHub is a code hosting platform for software development and version control using git.
- It is currently own by Microsoft
- Octocat is the mascot as well as logo of GitHub.

Please visit https://github.com/
and sign up for an account

Generate an SSH key pair

1. Open Git Bash (Windows) or a terminal (Linux/macOS)
2. Substituting in your GitHub email address in the following and execute the command:

   ssh-keygen -t ed25519 -C "<your_email@example.com>"

3. When you're prompted to "Enter a file in which to save the key," press Enter. This accepts the default file location.

Config SSH Key on GitHub

1. Sign in to your GitHub account and go to **Settings -> SSH and GPG Keys**
2. Click **New SSH Key**
3. Name the title as you wish
4. Copy the content of “id_ed25519.pub” on your machine to **Key** on GitHub
5. Click **Add SSH Key**

Create a repo

1. On GitHub, start a new public project.
2. On your project page, click **Code** and copy SSH path for cloning a project
3. On Git Bash (or terminal), Substituting in your cloning path and execute the command:

   git clone git@<copied SSH path>

4. If everything is setup correctly, you should be able to clone repo to your local machine.

Commit changes and push to GitHub

1. Make changes in your local repo (a folder on your local machine) by creating a new file
2. Open Git Bash (or terminal)
3. Execute the following command to add changed file(s):

   git add <your file>

4. To commit changes, substituting the comment below and execute the following command:

   git commit -m <comment>

5. To push changes to GitHub, execute the following command:

   git push

GitHub Cheat Sheet:
https://training.github.com/downloads/github-git-cheat-sheet.pdf