**May 30, 2016 (Ki H. Lee)**

GitHub: An open source version control system. Git is version control software that runs at the heart of GitHub. GitHub provides two things: GitHub Desktop (manage the individual version-controlled projects on the local computer) and GitHub.com (bring the local version-controlled projects to the Web).

<https://help.github.com/articles/set-up-git/>

### GitHub Setting Environment

* 1. **Remote Repository (GitHub)**: A centralized Git server on GitHub web site.
  2. **Local Repository (GitHub Desktop):** A git-project on the local computer. Clone directory.
  3. **Index (cache):** Staging area.
  4. **Working directory (source code)**

### Create a GitHub account

Create GitHub account: <https://github.com/>.

* 1. To make your mail private, in the top right corner of any page, click “Settings”. It will open “Personal settings”, then choose Emails and click “**Keep my email address private**”.

### Install GitHub Desktop

Download and install GitHub Desktop: <https://desktop.github.com/>. This will automatically install Git and keep it up-to-date for you.

* Please refer to: <https://help.github.com/desktop/guides/getting-started/>.
* To access GitHub online repository, Git commit identifies with an email address: Setting Git to use the private GitHube email address.

1. On your computer, open the **Git Shell** application.
2. Tell Git your name so your commits will be properly labeled.

$ git config --global user.name <name>

1. Tell Git the email address that will be associated with your Git commits. The email you specify should be the same one found in your [email settings](https://help.github.com/articles/adding-an-email-address-to-your-github-account/). To keep your email address hidden, see "[Keeping your email address private](https://help.github.com/articles/keeping-your-email-address-private)".

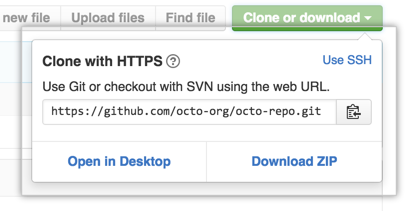
$ git config --global user.email <email>

### Create a new GitHub Repositary

* Please refer to: <https://help.github.com/articles/create-a-repo/>
* Create GitHub branch, when update the source code.

### Authenticating with GitHub from Git

1. In order to connect to a GitHub repository from Git, connecting over HTTPS (recommended) : When you view a repository while signed in to your account, the URLs you can use to clone the project onto your computer are available below the repository details:



### Basic Git Commands

Open the **Git Shell**  from [GitHub Desktop](https://desktop.github.com/).

1. git help command

$ git --help

1. Setting up a repository

$ git init <directory> : Transform the current directory into a Git repository. This adds a .git folder to the current directory and makes it possible to start recording revisions of the project.

EX) $ cd path/above/repo

$ git init --bare my-project.git

$ git clone <repo>: Clone the repository located at <repo> onto the local machine. <repo> will be copied from GitHub repository.

EX) $ git clone <https://github.com/kihlee/my-project.git>

$ cd my-project # Start working on the project

1. Saving changes

$ git add <directory> : Adds a change in the working directory to the staging area for the next commit.

$ git commit: Commits the staged snapshot to the local repository, and there is no interaction with GitHub.

1. Inspecting a repository

$ git status: Displays the state of the working directory and the staging area.

$ git log: Displays a committed history.

1. Undoing Changes

$ git checkout <commit >: Get back to the working directory match the exact state of the <commit > .

EX) $ git log –oneline

b7119f2 Continue doing crazy things

872fa7e Try something crazy

$ git checkout b7119f2

$ git revert <commit>: Generate a new commit that undoes all of the changes introduced in <commit>, then apply it to the current branch.

$ git clean: removes untracked files from the working directory.

### Using Pandoc to convert a universal document to a html

1. Install Pandoc : <http://pandoc.org/installing.html>
2. Convert a Word docx file to markup:

pandoc -s [example30.docx](http://pandoc.org/demo/example30.docx) -t markdown -o [example35.md](http://pandoc.org/demo/example35.md)

### Useful Git Tutorials

<http://readwrite.com/2013/09/30/understanding-github-a-journey-for-beginners-part-1/>

<https://www.atlassian.com/git/tutorials/>

<http://product.hubspot.com/blog/git-and-github-tutorial-for-beginners>

<http://code.tutsplus.com/tutorials/how-to-collaborate-on-github--net-34267>