Gentle introduction to Git & Github

Don’t mix up Git & Github. Git is a tool while Github provides clouds services that uses Git

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What is Git and what is GitHub?

- Git is a version control system (VCS)
  - Keeps history of changes.
  - Go back in time.
  - Breaking things that work is not an issue.
  - Managing changes from multiple people.
- Github is a web application that extends Git’s functionality using cloud services to manage online repositories.

Getting help in Git

- Getting help from in Git is a very useful strategy of learning how this software works.
- Help about Git can be gotten using the command;
  - $ git --help
- To also get help about Git subcommands like; pull, fetch, etc…
  - $ git <subcommand> --help for example;
    - $ git pull --help (this will give you help about pull).

Install & Configure Git

- On Mac, install Git using;
  - $ brew install git
- On Linux;
  - $ sudo apt-get install git
- To configure Git user on your PC, use;
  - $ git config --global user.name “Your Name”
  - $ git config --global user.email “example@domain.com”
  - To view the git configs, use; $ git config --list

Cloning a remote Git repository

- $ git clone <remote-url>
  - “git” is the command and “clone” is arg1 and <remote-url> is another argument that clone feeds on.
- Cloning a repository is basically downloading the repository to your PC.
- This command’s help can be gotten running;
  - $ git clone --help

Creating a Git repository

- Create a Linux directory using;
  - $ mkdir -P <directory-name>
- You can then allow Git to track this directory making it a Git repository;
  - $ git init (in the directory created)
- This directory is now tracked by Git and hence a Git repository.

Various Git Commands

- $ git diff (is used to get changes made in the repo). Another way to use the “diff subcommand” is;
  - $ git diff <hash1> <hash2>
- $ git push (is used to transfer changes from your local repo online).
- $ git pull (get changes from a repo online to your local computer).
- For more Git subcommands, type: “$ git --help”.

Git Review command

- With “git review”, you can use it submit a change or fetch other changes via Git / Gerrit (Wikimedia’s code review system).
- To discuss more about “git review”, we visit the link here: https://www.mediawiki.org/wiki/Gerrit/git-review.
- Installing “git review” on Linux, we can use; “sudo apt-get install git-review”.

More on Git commands

- $ git reset (used to revert to a particular commit ID and this is mostly useful when you want to go back in time).
- $ git checkout (is used to switch to a particular branch in a Git tree).
- For more on Git commands, you can read the Git Linux manual after installing Git using;
  - $ man git

Conclusions

- It's important to note that as a developer, code manage/versioning is a key tool to manage software development.
- With tools like Git, SVN, Mercurial etc…, working on a project as a team is relatively easier than using manual methods.
- Code versioning has changed the way software development is done in the 21st century.

Ask your Questions :)