GIT Tutorial - Beginners

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Git was initially created by Linus Torvalds in 2005.

Git is a version control system (VCS) for tracking changes in project/software/computer files.

- Team collaboration
- Track changes
- Local and remote repositories (repos)
- Revert back any time

Basic concepts include

- Keep track of code histroy
- Take snapshots of your files
- You decide when to take snapshot by making a "commit"
- You can visit any snapshot at any time
- You can stage files before committing

Basic Commands

$ git init //Initialize local git repository
$ git add <file> //Add file(s) to index
$ git status // Check Status of working tree
$ git commit //Commit changes in index

$ git push //push to remote repos
$ git pull //pull latest from remote repo
$ git clone //Clone repository into a new directory

Installing Git

Linux (Debian)
$ sudo apt-get install git

Linux (Fedora)
$ sudo yum install git

Mac
http://git-scm.com/download/mac

Windows
http://git-scm.com/downlad/win

Note: Try to use git bash which gives Linux like environment.

Steps: Installing GIT on Windows

1. Go to https://git-scm.com/downloads
2. Download the windows version of the GIT
3. Double click on the downloaded file.
4. Keep doing next till you reach **Adjust you Path environment.**
5. Select **"Use Git and optional Unix tools from the Command Prompt"** option
6. Keep rest of the options as default and click install.
7. You can launch Git bash when the installation finish

$ git --version \\ Check the git version installed on your PC
If you follow Step 5 correctly, you can use it from windows command line.

1. Create a folder at desktop (gittutorial)
2. Go to folder > Right Click and Select Git bash
3. Create few files in it using "**touch index.html** and **touch app.js**" .
4. To initialize write "**git init".** It will create a hidden .git folder
5. First add your email and name in git.
   a. **$ git config --global user.name 'XXXXXX"**
   b. **$ git config --global user.email 'xxx@xxxx"**
6. Now add the index file to git staging area "**git add index.html"**
7. Check the status by using "**git status"**
8. To remove a file from staging area use "**git rm --cached index.html"**
9. You can use different ways to add files
   a. **Git add *.html**
   b. **Git add .**
10. Now try to change something in the index file and you will see that it is modified
11. You need to add it again
12. To commit you can either write **git commit or git commit -m "messgaexxxxxxxx"**
    a. If you use git commit only it will take you to vim editor to edit file
    b. To add something in VIM editor use "**i**" to insert and press "**Esc**" to exit
13. You can add **.gitignore** file which keep tracks of all the files that need to be ignored when using **git add .**
14. Create a new file "touch log.txt and add the file in gitignore
15. You can also add entire directories "mkdir dir1 dir2"
16. You can also add files in those directories using "touch dir1/app1.js dir2/app2.js"
17. You can add dir to ignore using "/dir2"

Branching

1. If you are working in teams you use branches and work on that branch
2. **"Git branch login"** and then "git checkout login" it switch to the login branch
3. Create a new file touch login.html and make some changes on index.html file.
4. Now add and all files to staging area and perform commit
5. Now if you checkout to master branch then in the folder the login.html file will be gone.
6. The reason is that it is in the login branch
7. If you want to merge then use "git merge login" -------> check more details online

Remote Repo

- Go to github and signin
- Create a new repository and give it a name
- Then use repository link add it as remote "git remote add origin https://github.com/XXXXXXXXX/Workshop.git "
- You can check the remote repositories using git remote. --> it will show origin
- To push all changes to remote repository use "git push -u origin master"
- It may ask to validate your credentials and will upload
- To remove already existing remote use "git remote rm "XXX" where xx is the name of remote locations"