

Git & Github Introduction



Objectives

- Version Control
- Git , Git repository
- Git vs Github
- Setup git environment
- Create a git repository (adding file, adding folder)
- Checkout different version/ignore files...
- Git tools



"FINAL".doc



FINAL.doc!



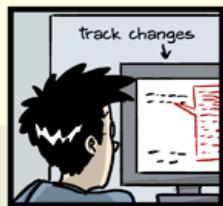
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Why Version Control?

Collaboration Versioning Rolling Back Understanding

Scenario : Multiple students are doing a project together

Question: Why not Google drive & One drive ????

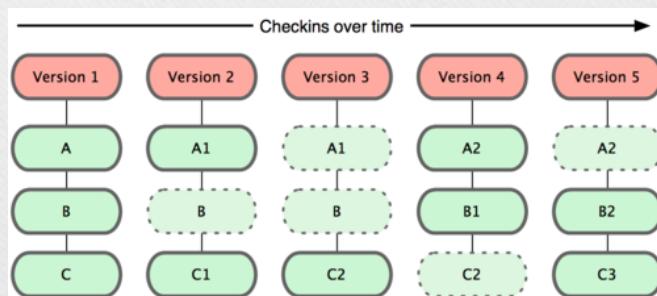
source code management vs file storage management



Why Git?

- Git :most commonly used software for tracking changes in any set of files, usually used for coordinating work among programmers collaboratively developing source code during software development.

Git



Git History



- Came out of Linux development community
- Linus Torvalds, **2005**
- Initial goals:
 - Speed
 - Support for non-linear development (thousands of parallel branches)
 - Fully distributed
 - Able to handle large projects like Linux efficiently
- **Global Information Tracker** (acronym name)



What is Github?



- GitHub was developed by Chris Wanstrath, P. J. Hyett, Tom Preston-Werner and Scott Chacon using Ruby on Rails, and started in February **2008**
- It is a subsidiary of **Microsoft**, which acquired the company in **2018** for \$7.5 billion
- GitHub.com is **a site for online storage of Git repositories**.
- You can get free space for open source projects or you can pay for private projects.

Question: Do I have to use Github in order to use Git?

Answer: No!

- you can use Git completely locally for your own purposes, or
- you or someone else could set up a server to share files, or
- you could share a repo with users on the same file system.



Git



Git is installed and maintained on your local system (rather than in the cloud)



Git is a high quality version control system



GitHub



GitHub is designed as a Git repository hosting service



You can share your code with others, giving them the power to make revisions or edits



GitHub is a cloud-based hosting service



Download and install Git

- Here's the standard one:
<http://git-scm.com/downloads>
- Git Repository is a place where Git can store versions of our files
 - `$ cd ~/gitclass`
 - `$ mkdir demo`
 - `$ cd demo`
 - `$ git init`
 - `$ dir /ah or $ ls -a` (* .git directory to store all the tracing info)

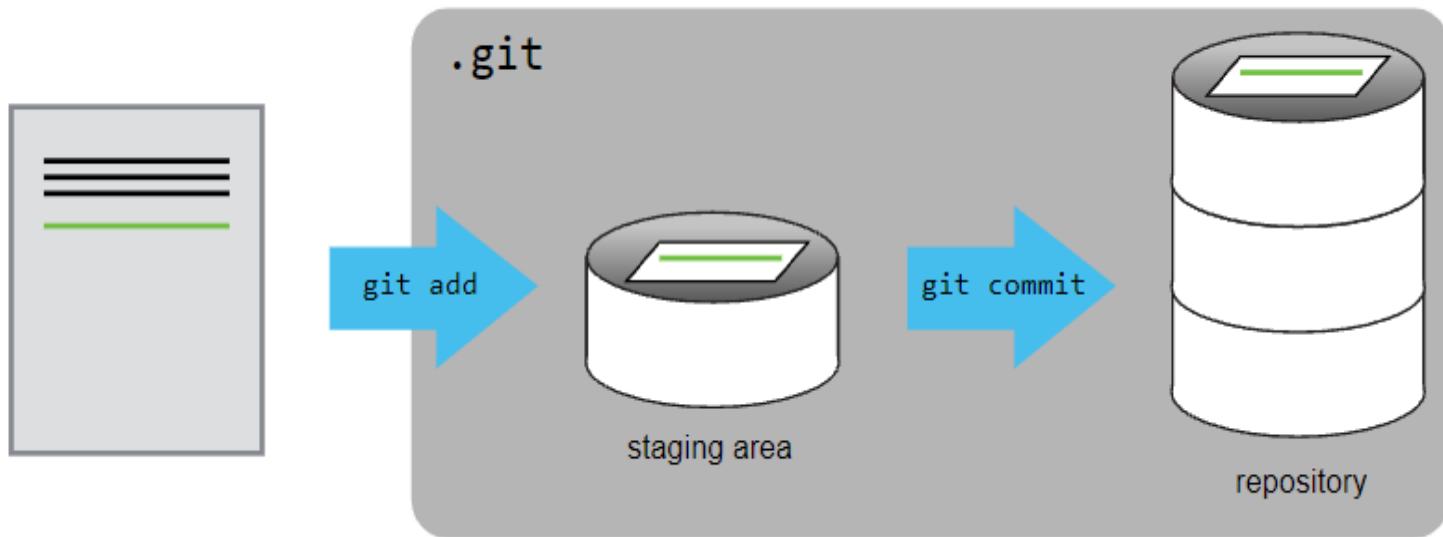


Introduce yourself to Git

- Enter these lines (with appropriate changes):
 - `git config --global user.name "Md. Sorwar alam"`
 - `git config --global user.email esorwar.cse@gmail.com`

command	description
<code>git clone <i>url</i> [<i>dir</i>]</code>	copy a git repository so you can add to it
<code>git add <i>files</i></code>	adds file contents to the staging area
<code>git commit</code>	records a snapshot of the staging area
<code>git status</code>	view the status of your files in the working directory and staging area
<code>git diff</code>	shows diff of what is staged and what is modified but unstaged
<code>git help [<i>command</i>]</code>	get help info about a particular command
<code>git pull</code>	fetch from a remote repo and try to merge into the current branch
<code>git push</code>	push your new branches and data to a remote repository
others: init, reset, branch, checkout, merge, log, tag	

Adding a file to git repository



Adding a file to git repository

- Create a rose.txt file ,copy rose.txt to demo folder
- **\$git checkout -b main**
- Git status **\$git status**
- **\$ git add rose.txt**
- **\$ git status**
- **\$ git commit -m “my first file checked in “**
- **\$ git log**

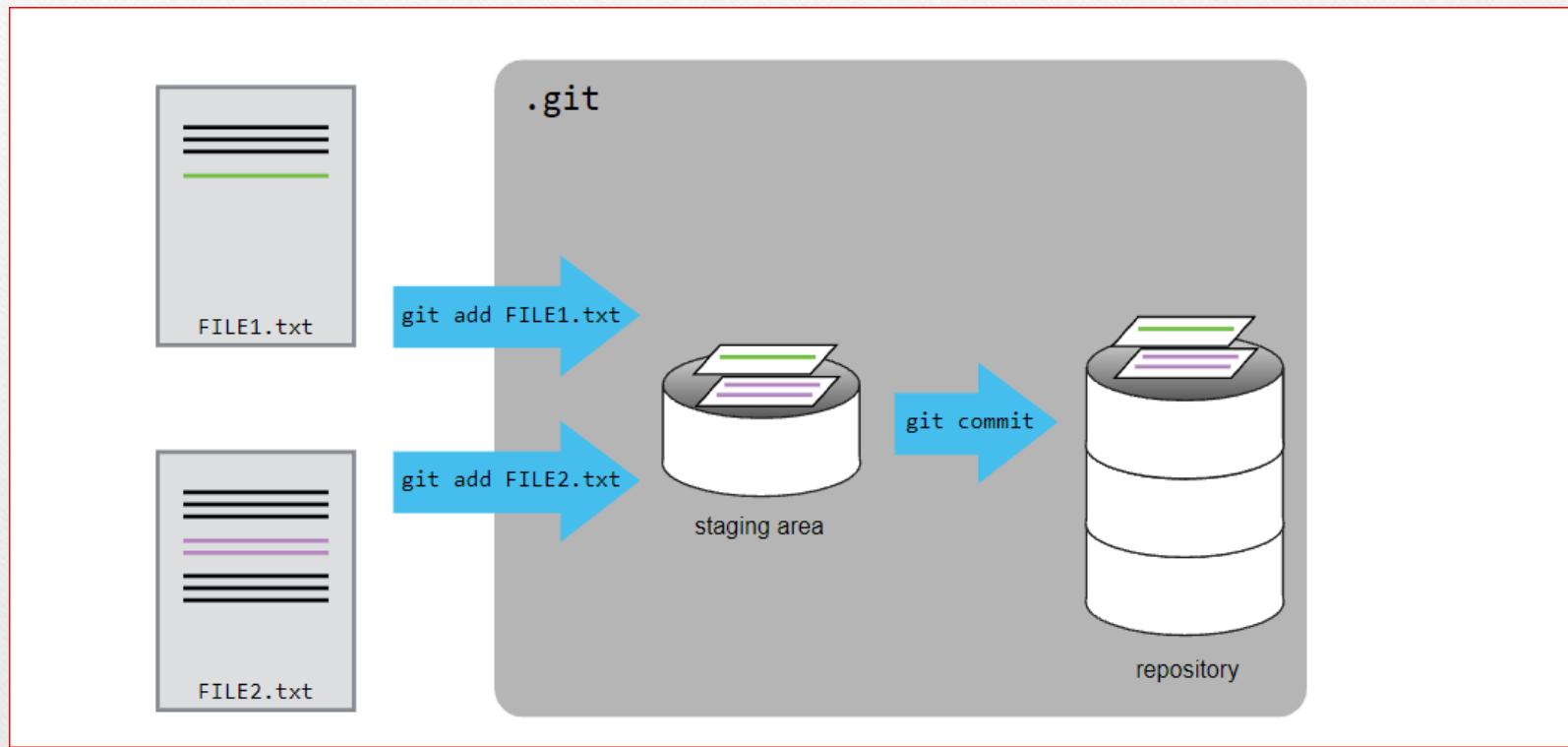
Continue...

- Change rose.txt file
- `$git status`
- `$git diff`
- `$git commit -a -m "new message...."`

Adding new folder

- `$mkdir poem`
- copy two text files to that `poem` folder
- `$git add poem`

Adding Multimpule files...



Ignoring Things

- Configure Git to ignore specific files.
- Explain why ignoring files can be useful.
- Copy results folder with files
- Create .gitignore file
- Add

*.dat

results/

Thank You

