Introduction to Git and GitHub-Notes

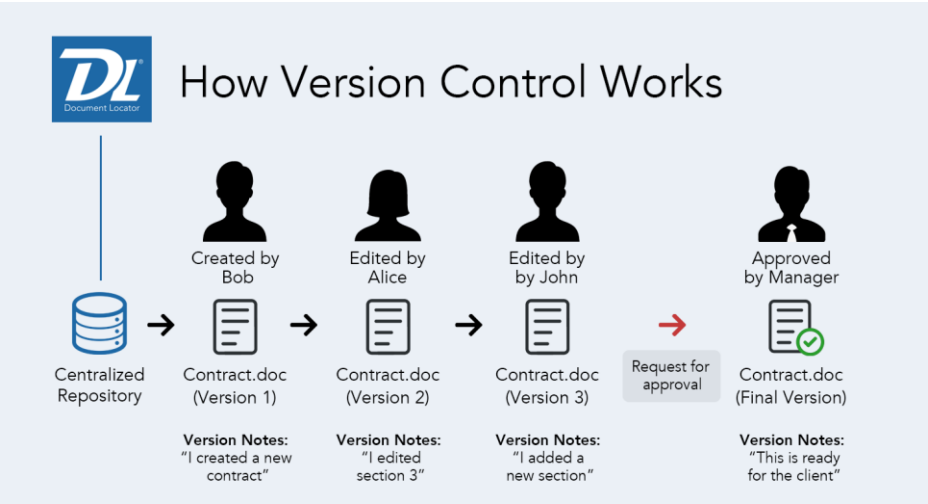
Git and GitHub

1.What is Git?

s-> Git is a free and opensource version control system.

2.What is Version Control?

->The management of changes to documents, computer programs, large websites and other collection of documents.



3.What is GitHub?

-> GitHub is a platform which uses Git to organise and maintain remote repositories.

4.What is the difference between Git and GitHub?

-> Git is the CLI language which we use for version control whereas GitHub is a platform which uses Git commands to organize and manage remote repositories.

Git Configuration Setup (Only for First Timers or When setting up a new SSH Key)

Steps-

1.git config

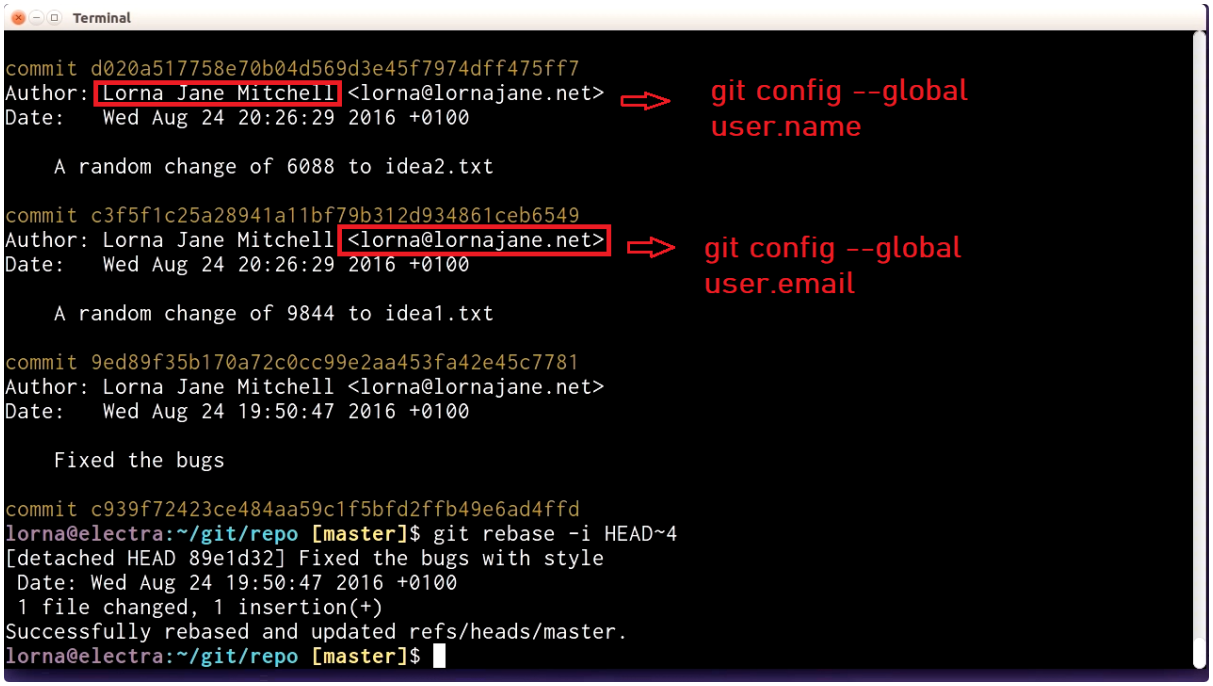
Lists the commands you can find helpful for configuration

2.git config --global user.name = "your_username"

Helps to configure name you want attached to your commit transactions.

3.git config --global user.email = "your_email"

Helps to configure email you want attached to your commit transactions.



Setting Up SSH and GPG keys

Importance of SSH and GPG keys-

1.SSH Key-

SSH provides public-key based authentication and encrypts connection between two network endpoints.

2.GPG Key-

GPG is used to verify the code in repo (i.e., Track all commits). It is basically used to know authenticity of user.

Steps-

1. ssh-keygen -t rsa -b 4096 -C “email-address”

2.press Enter

3.generated key

4.eval $(ssh-agent -s)

5.ssh-add ~/.ssh/id_rsa

6.clip < ~/.ssh/id_rsa.pub

7.Go to GitHub->Settings SSH and GPG keys-> New SSH Key->Paste the code(Ctrl+V)

Git Commands

1.Clone – Bring a repository that is hosted somewhere like GitHub into a folder on your local machine.

Command – git clone <repo-link>

2.Add – Track your files and changes in Git.

Command – git add .

3.Commit – Save your files and changes in Git.

Command – git commit -m “<message>”

4.Push – Upload Git commits to a remote repo, like GitHub.

Command – git push origin <branch-name>

5.Pull – Download changes from remote repo to your local machine, the opposite of push.

Command – git pull <repo-link>

6.Init – To convert a folder in a hardrive into a git repository use the command *git init*.

Command – git init

7.Log – To check all the commits made during the file updation.

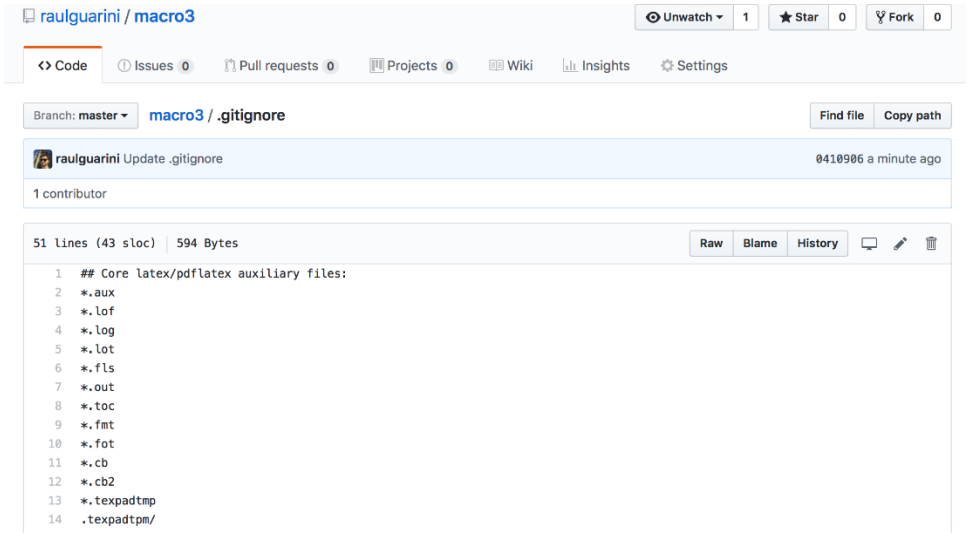
Command – git log (Up and Down arrow key and q to exit)

7.Pull – To update local machine code with remote repo code.

Command – git pull origin <branchname>

Git .gitignore

To add files which you would like git to not track changes of you place it in .gitignore



Each file you want to ignore will be placed in a new line.

If you want to ignore any single datatype name then add *.

Eg- ***.txt** will ignore all the text files

Steps-

touch .gitignore – To create gitignore file.

Add the files you want git to ignore in the .gitignore file created (may be containing sensitive data)

Git Branching

Steps-

1. *git checkout -b <branchname>*

   To create a new branch

2. *git branch*

   To check all the branches available in a repository

   Now whatever changes you make will make will be in the *<branchname>* you specified.

3. *git switch <branchname>*

   Used to switch between branches.

4. *git push -d <repolink> <branchname>*

   To delete branch.

5. *git merge <branchname>*

To merge the branch into root branch.

Forking

We need to fork the code if we want to make complete control over the repository and make unlike cloning where the control of user does not shift form one user to another.

git reset HEAD~1

To undo the last commit

Github Student Developer Pack- https://education.github.com/pack

Github Profile (Voluntary)

1. Make a repository with the repo name equal to the Github username.
2. https://github.com/shahhilag/shahhilag- You can refer the readme in here and replace(Ctrl+H) and replace shahhilag with your username.

THANKYOU

KEEP CODING