Git

Continious changes made find out changes and who made change on code it’s difficult to maintain previous times.to solve this one git had born.

Source code management(scs)

Version code management(vcs)

Ditstribution control system

Market 90 % of place ocuuping by the git.

Install:

Git environment is not important concept is important.

Download windows.

Google scm git

U will get official git website.

Download for windows/mac

Install that dmg or application

If u r using windows after run that application just .

For windows:Left click on u can see git bash click on that,

If u r using mac open terminal

Type

git –version

if it will show the version means u will successfully installed git.

Note: if u hav a windows system to shift from one drive to other

Type cd c:

Now installation is done:

Apart from git all systems are following “centralized system:”

Here we have main system one and each and everytime we are connected to that center system.

1000 action every time interact with server

slow process

need broadband connection

user collobarartion not possible

But git is an distribution model .

Distribution also like centralized system but

Here every system will create a repository apart from main repository

Now speed is high.

It will store in local repository.

User collaboration possible.

After u work is done u can push that code to once.

Git Terminologies

Client,server,branch,master,

Git Commands

git --version

git config --global user.name “rajbagath”

git config --global user.email “shivasingam111@gmail.com”

git config --global push.default simple

to check above commands

git config --list

now in our local drive we need to create a folder

cd desktop

mkdir gittuts

now inside that folder we need create a repository

2 types in git

bare repository (parent or main) it will store and share data but we cannot view the data .

non bare repository (child).

git init --bare centralname.git

now it will show like this “Initialized empty Git repository in /Users/mac/Desktop/gittuts/centralname.git/

”

to check type ls command on terminal.

Now u will go to bare repository.

cd centralname.git/

after ls here we can see the configuration files of git repository but we can’t see the data.

Creating a sub bare

git clone centralname.git/ raj

here clone is a replication of main repository and raj is a username.

After it will show message like this.

warning: You appear to have cloned an empty repository.

Note:

We won’t given priority to bare repository bcoz already they created.

We use non bare repository.

After creating a user repository we can see nothinh when we type ls

If u want see supporting files of local repository type

Ls –a

And go to git

Here u can see all supporting files.

Main topics:

In User directory or local director we have 3 stages or areas.

1.working directory or work space.(file wont save)

2.stagging area or index area(partially save)

3.git directory or commiting area.(completely save of a file).

touch create a file

touch filename

to check where we are

type git status

if the file name shows in red color means we are danger means working directory.

Bcz file not saved,no commits yet still.

Now we have to move that file to staging area

git add filename

git add sample

now file is partially save in staging area.

If u check that file

git status now the file name shows in green color.

Now we are commiting a file to git,

git **commit** filename –m”this is a new file of sample the user is raj”

git commit sample -m"this ssample file"

note: we have to pass the message before we hv commiting a file otherwise it wont take.

If u get an meassage below like this the file is saved successful,

nothing to commit, working tree clean

after saving a empty file .

if u insert some data now it will shows that git status red color.

After all process done u need to push that file from local repository to main git or parent repository.

git push

if it shows master 🡪 master means its success.

If u want see that data create new sub bare user raj2 after that if u type ls means

U can see the file of push by raj

Now again raj2 also created one file and he push that file into centran system.

Now we go for path raj if u want see that data file of raj2 pushed it wont visible.

Because raj2 push that file into centralsystem not for the raj repository if raj want that file means

Raj need to puu that file from central repository that code will be .

git pull

now if u type ls

means that file what raj2 pushed we can saw in raj repository.

If u want track the changes made in files just type

git log

here we can saw.

Git log concepts

Git log -2

Git log --oneline

Git log –grep “word” –oneline -1

See commit messages count

Git shortlog

See total commited information

Git show –start commitid

Here also history command will be there.

Vi .gitignore

Insert mode

\*.class

\*.txt

raj\*

save

above pattern files git wont take

now u aadd and commit means it wont take bcoz it ignoring

if we use git add –f app.class

now it will add the data

bcoz we are using –f forcefully adding the data.

Configuration:

Local level

Global level

System level

To make changes on global username and email u just keep type this one.

Git config –edit –global

Now vi editor will u can made changes but note don’t touch system configuration it might affect system.

Branching concept:

By using braches we can develop parallel.

Creating a branch ,

Git branch branchname

Git branch rajbranch

To see the branches just type

Git branch

In seeing branches \* indicated that current branch.

To switchfrom one branch to other branch.

Git checkout branchname

Now we are in Raj Repositary but different different branches.

Note: when u are creating a new branch that time only once only u will get data from main branch .

Example :

My main branch having files1, files2.

When I create a new branch only once that main branch files will reflect on sub branch.

Raj2brach

File1,file2 after that it will gone bcoz of isolation.

Note: if u r in master repository and u r create a file but u did not save that file that kind of files will reflect on all branches so we need to save(commit) that files when ever we are created.

Git merge

By using merge we can get the files from sub branches to master branches.

Git merge source branch name

Git merge rajbranch

Note: when we are merging two r more branches .the file having a same name means we will face issue mege conflict we tell them file name should be unique

Delete a branch

Git branch –d branchname

Note : when ur deleting a branch that time u are not be there in that branch if u are there i.e wont delete. Through error.

To create and switch a branch at time

Git checkout –b branchname

Git stash

If we r writing a code in vi editor 50 linees again same file only I need to start freshly then at a time I want backup that file means that time git stash will useful,

Git stash

To view that one backup files.

git stash list

to revert back our backup data command is

git stash apply stash@{1}

undo :

if u r created a file in working directory and u want delete it means simply u can use

rm filename

for suppose u deleted committed file then u have follow this procedure.

Git add deleted filename or .

Now if u type git status means it will show u that file is partially deleted.

Next

Git commit deletedfilename –m”iam going to this file permanently”

If u want undo a deleted file in working directory command is

Git checkout –filename

Lesion 5:

Here in git we have 3 ares.

1.Working directory

2.Staging or index area

3.Commiting area

when a file came to staging are then automatically in commiting area one reference id will be created for that staging file.

If that staging file revert back to working then temporary id auto remove from staging area.

Here temororoy id link into internalid.

And staging id link into externaid…

Undos working directory

Note if a file is already committed if we delete (working directory)that file then we need to

add staging areds (git add filename) and git commit filename –m”deleting a file”.

Revert back(trackable file)means already commited file.(working area)

In u r unfortunately delete a file then again u want revert that file means code

Git checkout -- filename

Git checkout -- sample

2.adding a file to staging area from working again want to working directory means.

Git reset

Git reset - - mixed(default)

--hard

--soft

git reset - -hard use is it will remove the temporary id from staging area. And it will go to now latest log file of commited zone file.

git reset - -soft it will remove from only one area of comitting area temporoy id will remove remaining staging area and working area will be same.

Undo a staged file

Git revert commitid(6343868436863868368636)

File changes findout in all areas:

If a file changed in area like working or staging or commiting area we can findout the changes:

Git diff 🡪 working – staging area.

Git diff head 🡪working -- commiting area

Git diff --cached -🡪stagging – commiting area.

If nothing changes made means it will show an empty.

Snapshort

Git internally works in the process of snapshot.

Working direct staging

File1;

Lin1

Lin2 File1;

LIN1

LIN1

-----------------------------------------------

after sub or add

I am a adding a new line in working directory .when its going staging area it will take only the modified line .remaining previous code will be save in stagg area.

Rewriting the commiting messages

After typing gitlog

Git commit --amend

It will took the latest commited log.

To rewrite the ranze of committed id’s

Git rebase –i Head-4 here 4 is limit.

Squash or fixup

Git rebase –I Head-4

You can squash in place of pick then automatically it will merge the above commited id.

Like above one it can squash the data.

GItHub:

Create and verify u r new github account:

Go to u r local system git setup and create a folder.

And when u create a folder it’s a folder only not a repo.

To make repo go to cd inside of that folder and type git init.

Git init

Now its converted into repo.

After if u type git status means it will show u no commits yet done.

Now create a file and do until commit

Now we need to push our file to server .

For that one we need make one connection.

Git remote add origion <https://github.com/shivasingam111/pract.git>

Git push origin master

After it will ask u r github username and password enter then automatticaly u r files will push to server

Now that file will push into pract repo.

Here u can create a newfile.

If u want to create a folder click on repo and click on create a newfile

And make

Filename/ + give filename and commit name and save it.

Clone the repo from server to local

Git clone <https://github.com/shivasingam111/pract.git>

Now above commands u will run means the live data will store into local system.

After cloning creating a new file and push the file into server.

After push the data will save into live server.

If u delete a repo means the github is not responsible for the data u have.

Fork

If somebody develop a repo and that folder in public by using fork we can get that repo to our account.

Open that github and right side click on fork.

Now it will add from different user to our account.

Creating a tag

Repo name should be same in sever and local

Then:

Git clone the server repo address

Git log

Git tag v1

Git tag v2

Git tag v3 commit id

To push tags

Git push origin --tags

Pull = fetch+merge

Git pull command used for to collect the data from server to local.

To fetch data from server separate branch

Git fetch origin branchname

Pull request.