Git and Git hub tutorial commands

**What is repository?**

A repository is simply a database containing all the information needed to retain and manage the revision and history of a project within a repository get maintains two primary data structure the object store and the index

The object store is designed to efficiently copied during a clone operation as part of the mechanism and support a fully daces

Index is transitory information, is private to repository and adds be created or modified on demand needed

**Get object store**

It contains your original data files and all the log messmates, author information, dates and other information required to rebuild and revision or branch of the project.

There are four types of object stores

1. Blobs’ blob holds a files data but does not contain any metadata about the file or even its name.(only source code)
2. Trees: its record blob identifiers, path names and a bit metadata for all the files in one directory. It contain also recursively reference other sub trees
3. Commit: a commit object holds metadata for each change introduced into the repository, including the author, committer, commit data, and log message.(details about file and log message)
4. Tags: a tag object assigns an arbitrary human readable name to a specific object usually a commit(any changing information with commit)

**Index**

The index is a temporary and dynamic binary file that describes the directory structure of the entire repository.

Index captures a version of the project overall structure at some moment in time. As the developer, we executer get command to stage changes in the index. Change usually add, delete or edit some files or set of files. The index records and retains those changes keeping them safe until you are ready to commit them. You can also remove or replace change in the index.(what happened about file take snapsot and verging about file)(it will create change about repository )(to commit we should required stage that’s y we use add . after stage data is ready to commit stage mins take index or snapsot then we comment the file)

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**File management or index**

Remote repository (master)<->index(staging happens here<->local repository(local)

**Index**

Git index doesn’t contain any file content it simply track what you want to commit when you run git commit. Git check the indedx rather than your working directory to discover what to commit.

You can query the state of the index at any time with the command git status

**File classification git**

**Tracked** :any file that’s already there in the repository or any file that staged

**Ignored** : file to be ignored by git object store and git index

**Untracked**  : an untracked file is any file not found in either of the previous two category.

**Git commands:**

**For version name**---git –version

**Git commit** –git commit –m “commit message”

**Git commit**—message=”commit message”

**Creating an initial repository**—git init

**Adding file to your repository**---git add index.html

**Adding file to your file through git base**—thuch file name

**Git status**—git status

**Configuring the commit author**

Git config user.name “rama”

**Configuring the email of the author**

Git config user.email [srln.patro@gmail.com](mailto:srln.patro@gmail.com)

**Viewing your commits**

Git log

**To create local repository :**

go to bit base

**command** : Git init (to make local repository in any folder)

**Hot configure remote repository with local repository**

**Goto git base Write command**: Git remote add origin paster url

In the place of origin you will write any thing as your wish Before writing command you copy your remote repository url from git hub

**How to check weather any remote repository added or not**

**Command : Go to git base type:** git remote –v

**Here you will get two option fetch and push and your name will be arrive which you given at time of adding remote repository If you want to remove your remote repository**

**Write command in git base**: git remote remove origin **(origin you given name at time of adding a remote repository)**

**Again add a remote repository**

**Write command :** Git remote add myorigin url **(at the place of origin I replace my origin for new git remote repository)**

**To check again write command**: git remote –v

**How to add a file in local repository and index that Add a file to folder Open the file and write some thing**

**To check about file Write command** : git status

It will show red color comment

**To track that file or stage that file to ready for commit**

**Write command for stage** : git add filename Or git add –all or git add .or “.”minning all files to be stage

**How to staged file convert into unstaged file to ready for un commit orRemoving file form indexGo to git baseFor check all status file write command** : git status

**If any green color file arrises then to remove form stage Write command** : git rm —cached file name

**How to ignore a file if inside repository area**

**For this purpose we required to create a file .gitignore**

**For this file open**

Got to any file 🡪go to save as🡪save name .gitignore🡪save type🡪all files

**File created go to any file name and copy the name of the file write name inside name in .gitignore file**

**To check status of ignore file write command in git base :git status**

**Check the about file present or not**

**How to configure global commit to author**

**If you commit any thing for this purpose a author required for this git software required author username and email id**

**for creater author name** :git config –global user.name user name

**for configuration of git hub user email id**:git config –user.email email id

**if any change we did in git hub then the user name and emil id will be record which we entered or which we configuered**

**if we index any file or stage the file after the stage file we required to commit for commit purpose we write command**

**in git base** :git commit –m “any required message”

**in above –m is a flag**

**here we did commit any files in locally and we did message also after the stage the file**

**what is git log command**

**by this command you will details about what are the list of commit who is the author what is the emiail id how many commit did and which day and which time all commit are did details will sea**

**for this write command**

**command** :git log

**you will easily know where initial commit actually did and when which commit**

how to push file from local repository to remote repository

**for this go to git log command to sea all details of committed file now how to push committed file to global repository**

**for this write command :frist check the remote reposioty name in local repository**

**we have write command for this:** git remote –v

**we taken name of the remote repository name is myorigin in local repository my origin linking to github remote repository**

**for push file we write command :git push remote reopository name in loclal repository master**

**ex:**git push myorigin master

write github password you given

if password correct then all file push to master branch now to go

git hub .com and go and open repository and sea the all files.

Generating ssh key

If you work in ssh key so there is no required to enter user name and password again and again at time of pushing files from local repository to remote repository if you are using http then you required to give user name and password again and again so ssh key good for pushing files form local repository to remote repository.

For this purpose you make a ssh key in your computer and you fid that key to the git hub account

Lets come and sea how to generate ssh key and set in to git hub account

Email id your required

Go to git base write command: ssh-keygen –t rsa –c “your mail id”

Launching a branch

What is branch

Is launching a seprate line development with in your software hire git is giving an oppurtinity to make multiple branch in your repository