GIT HUB:

It is a hosting service.

e.g.google is a company and they will create an google GIT hub account in GIT.

They will take some space in GIT.

Users will have their own emailed and login to GIT Hub and access it

GIT hub is website/hosting server (GIthub.com)which provides different services.

1.provides task management activities

Bug tracking sctivitied

Hosting services for GIT repository.

How it works?

Admin of that company will create a GIT repository in GIT Hub website.

GIT Repository:

It is a kind of tool for SCM🡪source control management

IT is tool for version control point of view.

Other tools for SCM available in the market:

1.GIT

2.SVN

3.TFS🡪Team foundation server by Microsoft

4.VSTS

5.VSS

6.BITBucket🡪from same GIT family.

It is a centralized repository. (Mr.Linus Torvalds)🡪founder of GIT

GIT concept is developed by founder of Linux(

Users/testers/developers will push their code to this repo

Repository contains

1.Branches

--🡪master branch

🡪Feature branch

When all pushes the code,new version will be created(v1.0),now this version can be pulled by all three users.

2 process:

Code check-in

Code check -out

Ultimate target:

All the users shd take the latest version /latest updated code.

**GITHUB account details**

**Username :ThejaswiniRaj**

**Password: thejaswini03.**

First Repository in GIT:

Steps:

1. download GIT and install

🡪 URL- [https://git-scm.com/-->latest](https://git-scm.com/--%3elatest) stable release🡪downloads for windows🡪run🡪install completely

2)check whether installed successfully:

🡪cmd🡪git🡪  
“these are common git commands used in various situations”🡪message(then installed successfully)

Login Git hub server🡪 create a new repository in master branch

🡪git installed folder🡪( C:\Program Files\Git)🡪 run git-cmd.exe

local workspace🡪our project🡪copy directory

git cmd prompt🡪cd directory path

cmd🡪git init

(.git file will be created in project workspace)

Initialized empty Git repository in C:/jansi\_javafiles\_2/POM\_structure/.git

Message will be displayed.-->.git file will be created.

3)To establish a connection:

In git🡪

**or push an existing repository from the command line**

**copy code**



git remote add origin <https://github.com/ThejaswiniRaj/FirstGITrepodemo.git>

4) to check status:

To push our code,first we have to add all the libs and complete proj folder.

1. First we have to check current status/what are the different files pending to commit.
2. Type git status in cmd

Those listing in red color are pending to commit.

How to add?

To add type git add .(git add leave some space and type dot)🡪to add entire project

If we have to add only specific pages🡪git add homepage.java

Entire proj will be added.

5)How to push the code?

Before pushing the code,we have to commit

How to commit?

Cmd🡪git commit -m “1 line description”

6) when u get any erroer like, \*\*\* Please tell me who you are. Run git config --global user.email "you@example.com" git config --global user.name "Your Name" to set your account's default identity. Omit --global to set the identity only in this repository. fatal: unable to auto-detect email address

Type below details.

git config user.email "insert github email here"//”jansilakshmanan90@gmail.com”

git config user.name "insert github real name here"//ThejaswiniRaj

here,my credentials are

// git config user.email [jansilakshmanan90@gmail.com](mailto:jansilakshmanan90@gmail.com)

//git config user.name "ThejaswiniRaj"

now again commit the code using Cmd🡪git commit -m “1 line description”

🡪now code is committed,but not pushed.

7)How to push the code?

push the code (Git push origin master)//here master is the branch name

🡪to push the code,some permission is needed i.e.we have to register SSH key to push

🡪we don’t need any SSH key or public key topull the code

Sequences:

i.Initialize GIT(GIT init)

ii)Add remote origin /establishing a connection

iii)GIT status

iv)Git add .(to add pending files from proj folder) or git add homepage.java

v)check status again

vi)GIT commit(git commit -m “1 line description”)

vii)push the code (Git push origin master

🡪to push the code,some permission is needed i.e.we have to register SSH key to push

Now complete code can be viewed under GIT repository.

How to obtain SSH key?

Steps:

Download putty, **Start menu → All Programs → PuTTY→ PuTTYgen**

**Parameters: (type of keys to generate):RSA**

**Generate**

**Save private key using passphrase**

**Copy public key**

**Go to GIT accounts page 🡪settings🡪SSH and GPS keys🡪new SSH key🡪give name (e.g. JansiwindowsSSHkey),paste in the key fiels.**

2)Jenkins Git plugin install:

Manage Jenkins🡪add plugins🡪available🡪filter🡪GIT hub🡪download now and install after restart🡪installed

1.https://github.com

2.+ icon🡪new repo

3.Repo name and description

4.Public/private.

5. create repository

2)Create a maven proj in eclipse and select the path of the proj and change the directory in cmd prompt

Run🡪cmd🡪cd path of project

3)Initialize GIT in cmd

How to push updated page or newly added page into GIT repository?

For.eg.consider I have added a new page called Gittest.java and how to push this ?

1.cmd🡪git status-

It shows the pending page to commit in red color

2.git add .

3.git status🡪It adds and shows the changes modified.

4.then commit and then push the code

New changes will be updated in the repository

How to pull the code from GIT repo?

1)Git cloning:

Whenever we are pulling any code from any Git URL,first time we have to clone it.

Clone🡪create a local clone repository in the local machine.

i)create a folder in c drive where u need to save the pulled code.e.g. java\_codes

Cmd🡪cd C:\Java\_codes🡪git clone <https://github.com/naveenanimation20/Log4jAPICode>

Git clone url

url🡪e.g. <https://github.com/naveenanimation20/Log4jAPICode> or our own repo url.

Once it is done,we can see the entire pulled code

ii)eclipse

for Java projects:

🡪file🡪import🡪general🡪existing projects into workspace🡪browse🡪folder in c drive🡪we can see complete project structure here.

For maven projects:

🡪file🡪import🡪maven🡪existing maven projects🡪next🡪select directory🡪open🡪finish

How to identify whether a project is maven project?

1)it has pom.xml file.

2)it has src/main /java and src/test/java folder structure.

How to pull updated code?

If I have changed something later, in the proj <https://github.com/naveenanimation20/Log4jAPICode>

We have to take the latest code of the same project .

We have already created a clone of the same proj,so we need not clone now,just we need to pull.

Steps:

1)no cloning needed to pull updated version.

2)cmd🡪cd🡪directory of that project

3)git pull origin master

How to create sub-branches in Git?

Why do we need to create a sub-branch?

Our main branch(default master) repository is lik our main project in production.we cannot directly push the code into production without testing/approval

Instead,we can create additional branches and do all the necessary changes in it.i.e.different version of our project.

How does git work locally?

When we initialize git in our project workspace,local git repository will be created in our local machine.

When we also,create a sub branch,local repository of sub branch will also be created.

Now we can do all the necessary changes to sub branch and push this sub branch to git hub sub repo.

And finally,we can pull the code from sub branch to main branch

Ref link for branches:

<https://dev.to/taeluralexis/break-git-down-how-to-create-a-branch-from-master-and-make-your-first-commit-2960>

How to do?

Steps:

1.cmd🡪cd project workspace directory

2.creating new branch:

Git checkout -b "newer-branch"

e.g. Git checkout -b "testingmaterials"

2.git branch: lists all the branches associated with the current project

Here,

\* Master

Mini-master

Theses are the branches available in local git repo of this project.

Highlighted with (\*) indicates that we are currently located in that particular branch.

For.e.ghere,we are in master branch currently

3. git checkout branch-name(mini-master)

e.g. git checkout mini-master

Switches the location to mini-master branch

4.once,we switch the control to sub-branch,

We can either add the whole project or particular file that has undergone change

Whole project🡪 git add .(add and then space and then dot)

Particular file: git add homepage.java

5.commit the changes:

Git commit -m “new change pushed to sub-branch”

6.push the changes

git push --set-upstream origin mini-master (or)

git push -u origin mini-master

//mini-master is the name of new brach/sub branch

//this command pushes our code from local new brach repo to remote/origin new branch.later on ,we can merge new branch to master branch

7.check remote git hub server:

We can see our git repo project with new branch which also has newer changes in it.

8.merge sub branch with master branch:

Flow:

Local repo git hub server repo

Master branch remote master



Mini-master branch remote mini-master repo



New changes pushed