# GIT/GITHUB

Founder of GIT – Linus Torvalds(founder of linux as well).

Git is a tool which is used for SCM(source control management). Using which we can keep our source code on a repository which is accessible to multiple users. There are many other tools available in the market like SVN, TFS(team foundation server), VSTS(visual studio team services), VSS (visual source safe) and bitbucket.

While github is a website which provides many features like:

* We can create wiki/confluence pages.
* It can be used as a task management tool.
* Bug tracking tool
* Provide hosting services for git repo.

So github is a website which can be used to host a lot of git repositiories. Every company which use github has some space allocated to it where multiple projects git repsoitories are hosted.

**Commands on GIT:**

Checkin –push the code to server.

Checkout –pull the code from server.

**Branches on GITHUB:**

There are two branches which are created at the time of creation of project – **Master** and second one is **feature** branch. Using these branches we can differentiate where we need to store our code. Normally teams make changes in feature branch and then merge it to master branch.

## Commiting code using git

Go to the repository where code is present using cmd.

Commands –

1. git init
2. git remote add origin path of github repo which can be taken from github
3. git status- it will show all the files which are required to be commited in red colour
4. git add . – add the complete project directory
5. git status – check the status again (all files will be in green colour)
6. git commit –m “comment” - here –m is used for comment

so here commit will not push the code on github…its commited but still we need to push it.

1. Git push origin master – here we need to specify in which branch we want to push the code to.

Now once u run git push command u will get some error, as we need to set SSHpublickey setup on github for giving permission to update your code. Normally when u create a project on github , you don’t want others to make modifications to it. Only specific people can make changes to the code. So for that u need to setup SSHKeys. Configuration is a bit different from mac.

Remember – for pull no ssh configuration is required as anyone can take pull from ur code if its not a private project.

https://docs.joyent.com/public-cloud/getting-started/ssh-keys/generating-an-ssh-key-manually/manually-generating-your-ssh-key-in-windows

You can add only few files as well. For that u need to specify the name of files you want to add in git add <file names>. We used **git add .** as we wanted to commit all the files.

**Pulling code using git**

1. Move to the directory where u want to take the pull may be C:/D:
2. Now create a directory over there using mkdir command
3. Once directory is created, u have to clone the code from github to your local machine.
4. Run command **git clone** “url of the project”
5. And the code will be cloned in local machine.

## Integrating your code with Jenkins & github

So once your code is available on github. Create a project on Jenkins.

1. Now in the source code management select GIT, and pass the repository url and in the branches to build text field give the branch name from where u want the code to be pulled.

(Master Branch).

1. Now in the build triggers, select whenever a snapshot dependency is build.
2. In the build section , give Root pom name(pom.xml).Set Goals and options as clean install.
3. Add post build steps, if u want to perform something at the end. Lets say we want to generate testing and html reports. Plugins should be available otherwise option for generating reports will not come.
4. One common issue that is coming after Jenkins 1.6. For HTML reports(extent reports). Html styles are not coming on Jenkins.
5. **FIX-** go to manage Jenkins -> Script console.

To generate proper Extent/HTML Report in Jenkins, use following script in Script Console of Jenkins: System.setProperty("hudson.model.DirectoryBrowserSupport.CSP", "")

So this way we can use github for version control and can use Jenkins to pick the code directly from github and execute it whenever we want it to be. Set cron patterns to schedule overnight jobs .