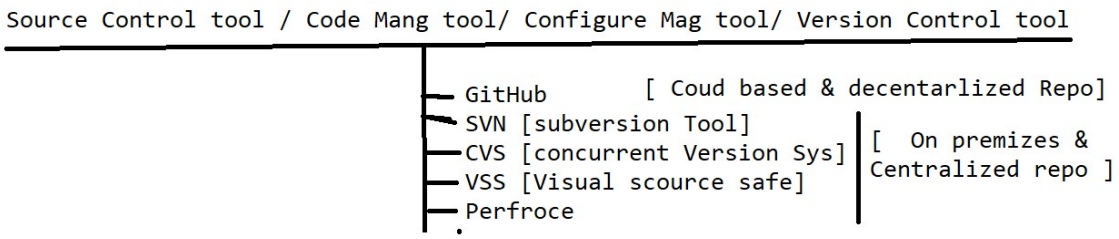


What is Github

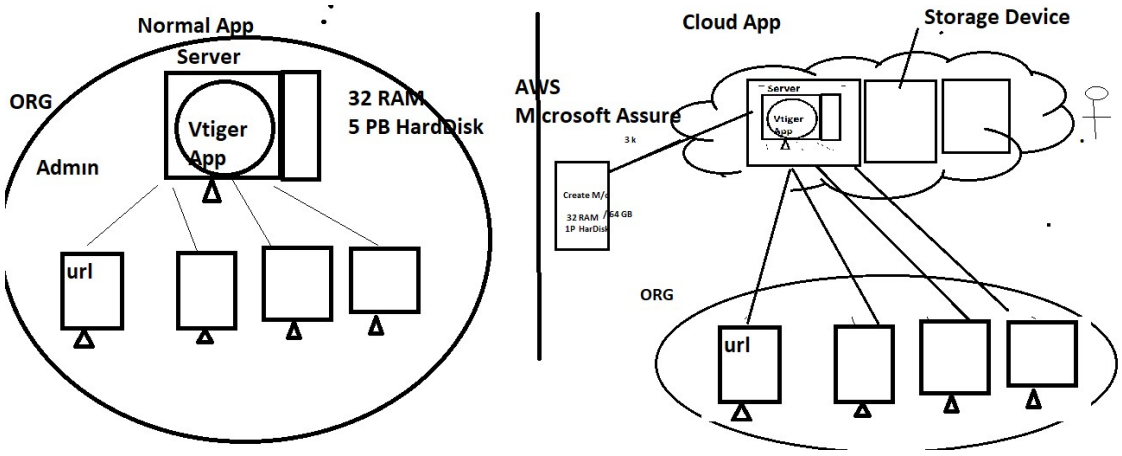
It's a distributed cloud decentralized repository where we can maintain our sourceCode / Automation Framwork / CRS doc /build of the application in one place

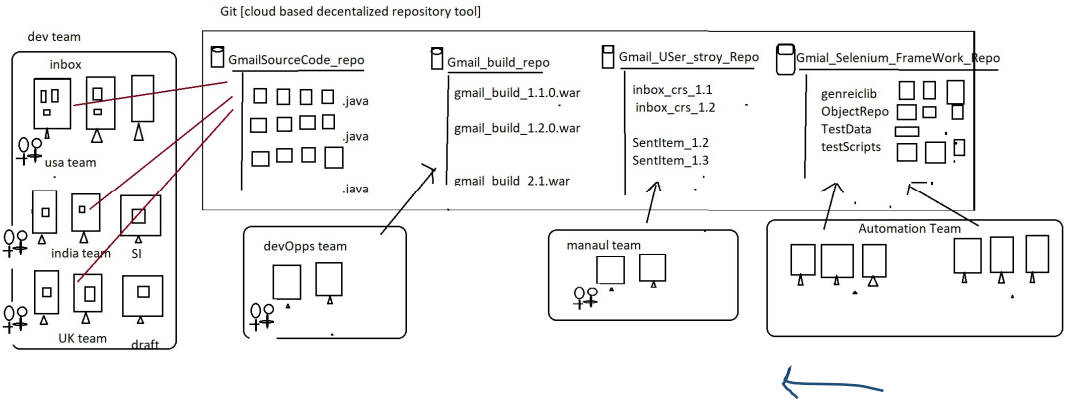
There are 2 Software in GitREpository

1. Git HUB : Cloud based repository(software) , which is used maintain the source code in one place , in order to use it just create an account with https://github.com
2. Git [Git client] : it's a software should installed in client machine , which is used to communicate to GITHUB
   EG :Git client Software EGit , GitDeskTop , GitBash

Advantages of GitHud Cloud

1. Since its cloud based repository , no need have maintenance team to maintain the Software / HardWare
2. Cloud means pay rent for what you use
3. Cloud software always access via internet
4. Cloud System / sever physically not present within the Organization, but present virtually
5. Initial investment is not required for Software/ Physical location
6. Scale UP / Scale Down is easy
7. File Share between the team members is easier
8. It provides remote access, it means anywhere contributors can access via internet
9. Provide History for changes made by users &backup facility
10. GitHub also provide platform to review [pull request] the Code of Automaton test scripts
11. GitHub Also handle the conflict's
12. Jenkins Always get the latest framework from the Git for batch Execution



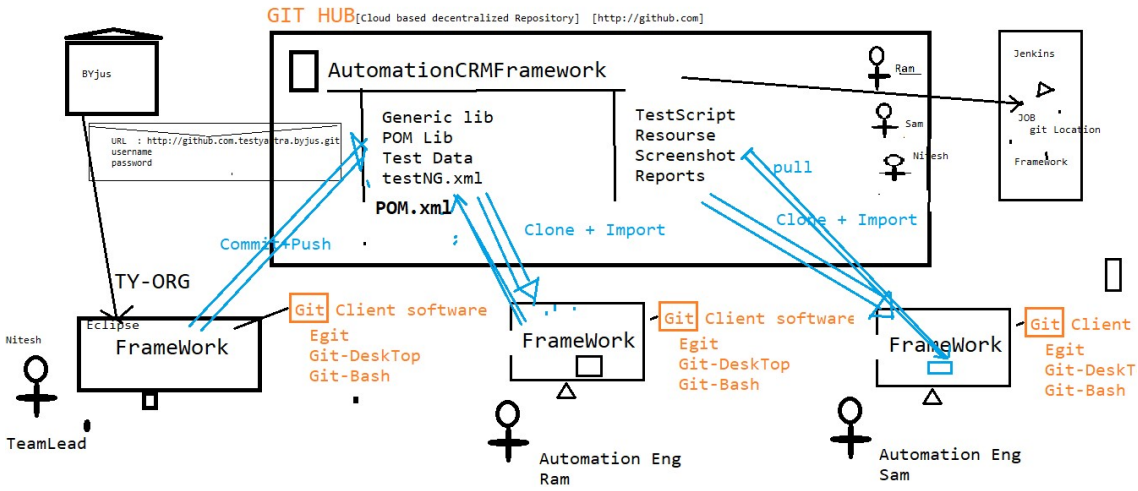


Developer Usage of Git : used to maintain the Source of the Application in one place

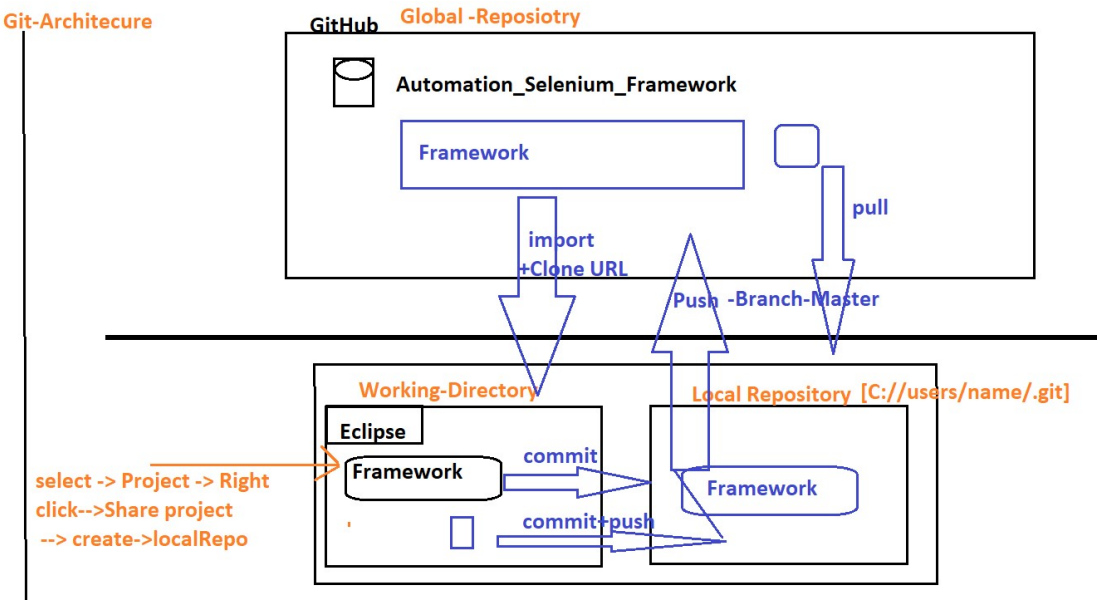
Automation Usage of Git : used to maintain the entire Automation framework in one place

DevOps Usage of Git : used to maintain the multiple application build version(like .exe, .war , .tar , .jar etc) in one place

Manual team Usage of Git : used to maintain the entire CRS / use case of the application



Git Architecture



Why Git is Decentralized Repository?

Git is Decentralized Repository because, in Git before pushing any Code to git Hub, we have to commit the code to local repository first,make sure code is working in Local Repository then push Code to GITHUB(Global Repo)

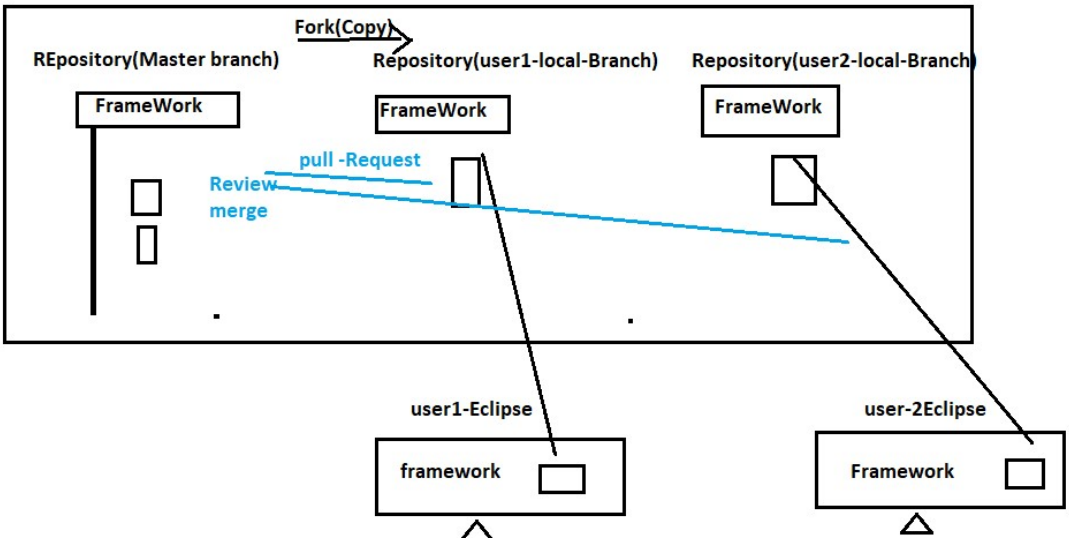
- ⇨ There are Three stages in Git , start with "Working Diretory"➔Local Repo➔Global Repo

What is Git Conflicts

When two or more engineers modified the same file , when Eng-1 one push the file to GitHub will not get any conflicts , but Eng-2 try to push the same file to GitHub , will get git Conflicts (because that file already modified by Eng-1)

Solution: Before push any file to GitHub, we should mandatorily Pull the Project & select merge option , then[eclipse automatically merge the Code with comments]& remove comments manually & analyse the code then push it

What is Pull Request & git branching ?



Whenever user made changes in the Programs , some Organization will not have access to push your changes to Master-Branch , in such case we supposed to create a local branch using “fork” option , than push the changes to local branch & than create “Pull Request” to Team lead asking for “REVIEW & MERGE” my program to master branch

Can u explain Git Commands?

Commit: from working directory to local repo
Pull: If you have the project already in your local system, pull help you to get the changes
Push: from local repo to global repo
Merge: merge code from local branch to master
Rebase: merge multiple branches at a time
Clone: duplicate the URI of global repo in local system
Fork: get a copy of repository from a different github account to other github account

How to create an account in github?

- Go to Google> search for github login
- Click on first name, navigate to https://github.com/login
- Sign-up

How to create a repository in github?

- Login to github
- Go to + dropdown menu and click on new repository
- Give repository name Actitime_OCM32_Framework
- Select checkbox that says "initialize this repository with README
- Click on create repository
- Go to clone or download dropdown and copy the git repository url https://github.com/qspidersseleniumoar/Acttime_OCM32_Framework.git
- username: qspiders.selenium@gmail.com
- password: Selenium1-2

How to share existing framework in eclipse to git?

- Select the project>Right Click>Team>Share Project
- Status of the project should be [NO-HEAD]

How to transfer the framework from working directory to local repository?

- Select the proj.>right click>team>click on commit
- Go to Git staging window, drag all the files from unstaged area to stage area
- Write commit message and click on commit

How to transfer the framework from local repository to global repository?

- Select proj.>team>click on push branch 'master'
- provide url, username and password and follow the procedure

How to get the framework from global repository to local system?

Pre-condition: make sure you have git url, username and password

- Go to eclipse>File>import
- Expand Git folder>Click on project from git
- Click on clone uri>provide username and password, click next and finish

Pre-condition: make sure you have git url, username and password

- Go to eclipse>File>import
- Expand Git folder>Click on project from git
- Click on clone uri>provide username and password, click next and finish

How to transfer newly created files from local to github?

- Select the new files>right click>team>commit
- Go to git staging window>drag the files from unstaged to staged area
- Click on **commit and push** button

How to get new files available in github to local system?

- Select the proj.>right click>team>click on pull

When you will get conflict in github and how to resolve?

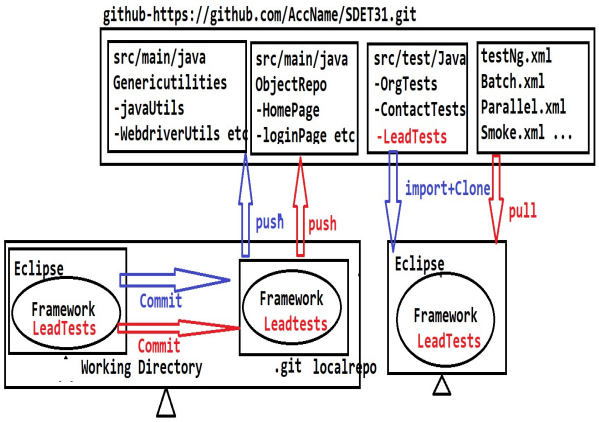
Whenever two engineers modify the same file, when you try to commit that file into github, you will get conflict, in order to resolve this problem, pull the framework using rebase option

Also try rebase>reset

```
Git commands:
1. Commit -> thecode will be copied into local
repository(.git older) from working directory
2. Push -> code will be copied from local
repository(.git folder) to global repository(github)
3. Import + clone -> First Time when you have to get
the project from global respository we have to use
import + clone
```

```
git folder - consists of all
projects imported from github

.git folder - acts as a local
repository to a particular
project
```

```
          import + clone URI
4. Pull -> when we have already imported and cloned theproject into working
directory, if we want only the changes/modifications done on that project,
then we have use pull. pull command will get only the modifications

Git-Conflict: When multiple enginners are working on the same project,
when one engg commit and pushes the code to github, no issues will
arise, but if the second engg tries to push the code without pulling,
he will get a conflict - branch will reject the push. this state is
called as goit conflict

Solution:
Step 1: pull the framework
Step 2: Remove unwanted comments
Step 3: Analyse the code
Step 4: Push the code

How to avoid Git conflicts:
Always pull before commit and push
Push to branch
```



What is branch in github? Collaborator

when multiple Engg are working on the same project testscript has to be pushed individually in the di branches in order to avoid conflicts.

Later after review each branch will be merged with branch.

Merge -> merge command will merge one branch at a time with master

rebase -> merge multiple branches at a time with master

pull request - > it acts like a intimation to the manager/lead/reviewer that a branch has been created and it has to be reviewed before merging into the master

fork -> taking a copy of repository from one github account to another github account