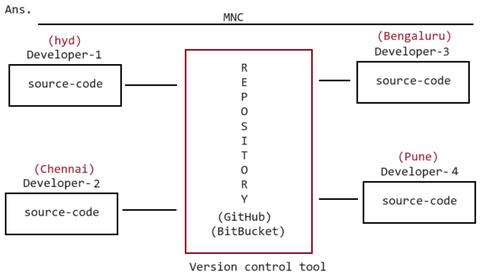
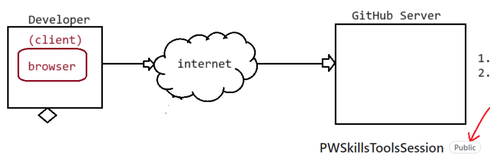
What is the need of version control tools?
Ans.



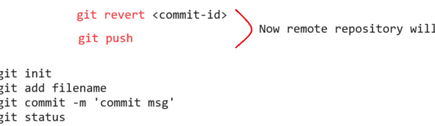
Problem
a. Integration all developers source code at one place
b. Tracking modification of source code is difficult.
(Who/When/What/Why)

Solution
VCS(Version Control System)
EG:: SVN(Outdated), GitHub, BitBucket



1. Create an account(www.github.com)
2. Create an Empty Repository to keep my source code

-> once the account is created and empty repository is created as a developer the source code of the project should be placed in "repository". PWSkillsToolsSession

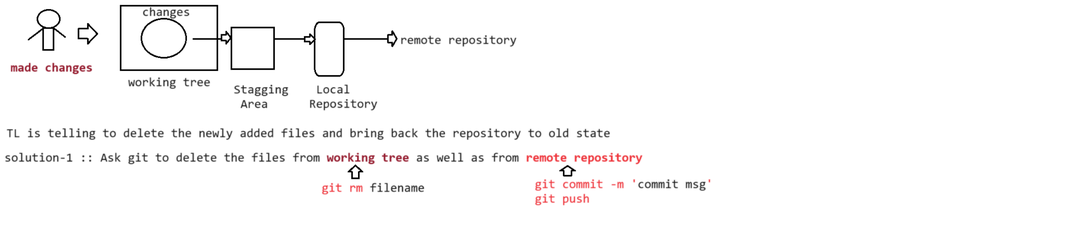


-> To work with GitHub Server, we need to git software
-> Download and install git software from **https://www.git-scm.com/download/win**

Other Git for Windows downloads
Standalone Installer
32-bit Git for Windows Setup.
64-bit Git for Windows Setup.

-> After downloading, double click and install the file
-> To check whether it is installed properly or not just right click and check for GitBash

To work with GitHub, we need to understand its architecture



First time if we want to push the code from our working tree to git hub repository we need to execute the following commands

1. git init
2. git add
3. git commit -m 'commit msg'
4. git branch -m main
5. git remote add origin <repo-url>) Creates a link b/w remote repository to working tree(check in .git/config file)
6. git push -u origin main

Configure gitbash with username and email id of github account

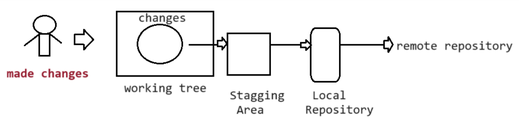
```
>>> git config --global user.name "username"
>>> git config --global user.email "email id of GitHub account"
>>> git config --list
    user.name=Nitin
    user.email=javabynitin2022@gmail.com
```

Working with git commands (from second time onwards)

1. git add
2. git status
3. git commit -m 'commit msg'
4. git push

If our code is needed by another developer of a team then we need to share the remote repo-url
In his laptop the developer will clone the project from the remote repository as shown below

```
nitin@DESKTOP-1N5U4UJ MINGW64 ~/OneDrive/Desktop/shahid
$ git clone https://github.com/NitinManjunathIT/Pwskilltoolsession.git
Cloning into 'Pwskilltoolsession'...
remote: Enumerating objects: 53, done.
remote: Counting objects: 100% (53/53), done.
remote: Compressing objects: 100% (25/25), done.
remote: Total 53 (delta 0), reused 53 (delta 0), pack-reused 0
Receiving objects: 100% (53/53), 8.50 KiB | 1.70 MiB/s, done.
```



Later on TL asked me to revert the changes in remote repository(bring back to old state)because of version conflict

solution :: remember where all we made the changes, undo in working tree and again put it to stagging area, commit to local, push to remote

solution :: Take the support of git to know **where all we made the changes**

git log **(commit history)**

give history of commits along with **commit id, who changed, what changed, when changed**

git revert <commit-id>
git push
) Now remote repository will move back to old state

```
git init
git add filename
git commit -m 'commit msg'
git status
git restore --staged filename
git restore filename
git push
git revert <commit-id>  ---> opens the vi editor
                             press esc key
                             close the editor using :wq
git clone
git log
git config --list
git rm(delete file in working tree) + git commit
                                     git push  | delete file from remote repository also
```

TL is telling to delete the newly added files and bring back the repository to old state

solution-1 :: Ask git to delete the files from **working tree** as well as from **remote repository**

git rm filename

git commit -m 'commit msg'
git push