Aim: Study of Version Control Tool

1.What is Version Control Tool?

Version control is a class of systems responsible for managing changes to computer programs, documents, large web sites, or other collections of information. Version control is a component of software configuration management.

2. Type Of Version Control Tool?

* **Local Version Control System**
* **Centralized Version Control System**
* **Distributed Version Control System**

3. Advantages of Version Tool?

* Managing and Protecting the Source Code.
* Keeping Track of All the Modifications Made of the Code.
* Comparing Earlier Versions of the Code.
* Supports the Developers’ Workflow and Not any Rigid Way of Working.

4. Tool

* What is Git?

Git is software for tracking changes in any set of files, usually used for coordinating work among programmers collaboratively developing source code during software development. Its goals include speed, data integrity, and support for distributed, non-linear workflows.

* Installation process

<https://git-scm.com/>

* Commands

List of Commands in GIT

Download git : git-scm.com

Open Git bash

1. Configuration

git config --global user.name “yourname”

git config --global user.email “youremailid”

git config --list

1. Navigation to working directory

cd (drag your outer folder)

cd (drag inner folder)

1. Initialization to GIT

git init

1. Create files using git command

touch “filename.exe”

1. Add file to staging area to commit after modification

git add filename.exe

or

git add –A //to stage all files in that folder

1. Commit

git commit –m “message”

or

git commit –a //to commit all files in staging area

1. To un-stage file from staging area

git reset HEAD FILE-TO-UNSTAGE

1. Check Log of each commit

git log

or

git log --oneline //this command display logs with small commit code

1. Display each commit/ changes done to file

git show commit-hash //copy-paste hash function of commit

1. Retrieve deleted file

git checkout HEAD filename.exe

or

git checkout -- .

or

git checkout commit-hash~1 – filename.extension

1. Check Status

git status

1. Rollback to previous version

*Reset*

git reset --hard commit-hash

*Revert*

git revert commit-hash

Note: when the revert enter message window is displayed, please press escape tab, then :wq and enter.

1. Create branch (new feature)

git branch branchname

1. Delete branch

git branch –D branchname

1. To switch between branch

git checkout branchname

1. To merge branches

Git merge branchname

1. Show branch list

git branch --list

GIT commands to save file on central repository

1. Create account on GITHUB.com
2. Click on ‘+’ on top right corner in your account and create new repository
   1. Add repository name
   2. Description (optional)
   3. Repository visibility -> public
   4. Check box for initialize this repository with Read Me
   5. Click create repository button
3. Top of your GITHUB repository click on ‘CODE ‘ button to select http code
4. In GIT bash window (type command)
   1. git remote add origin http-URL // to connect to remote github server
   2. git remote –v // to verify connection
   3. git remote remove origin // to remove remote server
5. PUSH Command
   1. git push origin master // will display username and password window.
6. PULL Command
   1. git pull origin master