Problems without VCS?

Problem 1:

Code in Local Machine, if system got crashed, we will lose code

Problem 2:

If two persons working on same file at a time, very difficult to merge

Problem 3:

If we are creating files like versions like v1, v2, v3 etc.., it is very difficult to maintain

What is version Control System?

Tracking changes that happen within directories of files

VCS Goals

Allow developers to work simultaneously

Do not overwrite

Maintain History of every

VCS Types

Centralized

Client - Server Model

Ex: SVN, Perforce

Distributed

Client - “Local Server” - “Public Server” Model

Ex: GIT, Mercurial

Central VCS

C1 -> U1, U2, U3

Cons:

If there is connection issues b/w C and U, we can’t go further

Distributed VCS

D1 -> L1, L2, L3 -> U1, U2, U3

Pros:

If there is connection issues we can work with local VCS.

Once connection will works, we can work on D

What is GIT?

Installed locally on the developer machine

Working Directory

Staging Area

Git Directory

Installation

//TODO

Work with GIT

CLI

GUI

Eclipse

Working with GIT

Create Local Git Repository

Convert Local Directory as Local Git Repository

Diff b/w git and github

Git is local repo and github is central repo

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Diff b/w full and fetch

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**git bash here**

**git init**

to initialize the git

.git folder will be created in current directory

create the new file readme.txt file

Working area -> Staging Area -> Local Repo

**git status**

To check the untracked files

**git add .**

To move untrack file from WA to SA

**git commit –m “comments”**

To commit the changes from SA to GR

**git log**

Shows the logs

**git revert id**

To go previous version

**git reset id**

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**Login into github, create repository**

**git config -global user.name “user1”**

**git config -global user.email** [**user1@mail.com**](mailto:user1@mail.com)

**git remote add origin** [**https://github.com/user1/gitdemo.git**](https://github.com/user1/gitdemo.git)

**git push –u origin master**

**it moves readme.txt to github**

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**Add some lines in readme.txt**

git status

git add readme.txt

git commit –m “comments”

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**Get the changes from the github**

git bash here

git clone <https://github.com/user1/gitdemo>

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**Branches**

Working with GIT GUI

Right click on directory

GIT GUI Here

Rescan

Scans the repository, shows the modified and changed files into un-stage area

Stage Changed

Move files from un-stage to stage

Sign Off

Commit

Commit to Local Repository

Push

Local /GIT to Remote/Github

Different between Directory and Repository

Folder

Before Convert Local Directory as Local Git Repository

Repository

After Convert Local Directory as Local Git Repository