

Module 1: Introduction to Git

Assignment Solution

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1. List out the key difference between a centralized version control system and distributed version control system

Solution:

Central Version Control System

- » In centralized version control system, the central server hosts the code base
- » The CVS is responsible to maintain the revision history, versioning, Authentication etc.
- » The collaborators should be always connected to the CVS to perform operations
- » Backup and recovery is too difficult in case the central server crashes

Distributed Version Control System

- » In distributed version control system, each developer gets his own private repository
- » In DVS each collaborator's private repository maintains the revision history and versioning
- » The collaborators need not connect the remote repository for most of the operations but only when syncing the changes to the remote, they need to be connected to the remote repository
- » Backup and recovery is simple as the code can be cloned from any other developer

2. List down any two centralized version control system and 2 distributed version control system

Solution:

- » Centralized Version Control System: Perforce and SVN
- » Distributed Version Control System: Git and Mercurial

3. What are the advantages of git VCS over other VCS

Solution:

- » Each collaborator gets his own private repository
- » Almost all operations are local which minimizes the dependency with the remoter repository
- » Branching and tagging is simple and easy in Git
- » Different workflow are possible

4. What are the different states of a file in the Git VCS

Solution:

- » **Untracked** - new files and ignored files comes under this state
- » **Modified** - edited files
- » **Staged** - Files that have changes/added/removed and are staged for the next commit
- » **Committed** - The changes are persisted in the repository. The status of the file be unmodified. Any changes done to the file will move the status of the file to modified