**GIT**

1. What is GIT and its significance in SDLC?

Git is a version control system for tracking changes in files and coordinating work on those files among multiple people.

It is primarily used for source code management in software development. It is a distributed revision control system and is very useful to support software development workflows.

1. What is the difference between GIT and SVN?

GIT:

-> Git is installed on a workstation and acts as a both server and a client

->Git branches are only reference to a certain commit so they are lightweight but powerful

->Git assumes all the contributors have same permissions

-> changes in Git are tracked at repository level

SVN

->SVN has separate sever and client

->SVN branches are created as directories inside a repository

->SVN allows you to specify read and write access controls per file level and per directory level

->Changes are tracked at file level.

1. What are the advantages of using GIT?

->Git provides the best performance when it comes to version control systems

->Committing, branching, merging all are optimized for a better performance than other systems.

->The algorithm manages your versions, files, and directory securely so that your work is not corrupted.

-> Git has an intermediate stage called “index” or “staging area” where commits can be formatted and modified before completing the commit.

->Being open source invites the developers from all over the world to contribute to the software and make it more and more powerful through features and additional plugins.

1. What is “Staging Area” or “Index” in GIT?

. The Git index is used as a staging area between your working directory and your repository. You can use the index to build up a set of changes that you want to commit together. When you create a commit, what is committed is what is currently in the index, not what is in your working directory

1. What is GIT stash?

git stash temporarily shelves the changes that you've made to your working copy so you can work on something else, and then come back and re-apply them later on.

Stashing I useful if you need to quickly switch context and work on something else, but you’re mid-way through a code change and aren’t quite ready to commit.

1. What is the function of git clone?

Git clone is primarily used to point to an existing repo and make a clone or copy of that repo in to new directory at another location. The original repository can be located on the local file system. The git clone command copies the existing git repository.

1. How can you create a repository in Git?

-> go to git hub, select the dropdown bar in the top right corner

-> here select new repository option, Type a name for your repository

-> add description optionally and choose repository visibility

-> select initialize repository with a readme

->Click on create repository

1. What is the purpose of branching in GIT?

To overcome the conflicts of code ,suppose 2 developers are working on the same branch ,if first person change the code ant commit the file and push into repository , second person also do the same on same file ,if second person wants to push into repository git-hub shows conflict message (pull the code and then push into Repository there is no mutual communication between developers if we think each developer work on their respective branch ,finally code get the developers and merge into master branch.

1. What is the difference between ‘git remote’ and ‘git clone’?

git remoteis used to refer to a remote repository or your central repository*.*

git cloneis used to copy or clone a different repository.

1. What is the function of ‘git diff ’ in git?

Diff command is used in git to track the difference between the changes made on a file. Since Git is a version control system, tracking changes are something very vital to it. Diff command takes two inputs and reflects the differences between them. It is not necessary that these inputs are files only.

1. Explain what the commit message is?

A git commit is a change to code. A commit message is attached to that change, not the code itself. Accordingly, when you write a commit message you are writing it as if it's about to be applied, rather than about what you just did.

1. Why is it advisable to create an additional commit rather than amending an existing commit?

Git amend internally creates a new commit and replaces the old commit. If commits have already been pushed to central repository, it should not be used to modify the previous commits. It should be generally used for only amending the git comment.

1. What is Rebasing?

In Git, the rebase command integrates changes from one branch into another. It is an alternative to the "merge" command. Mostly, rebase differs from merge by rewriting the commit history in order to produce a straight, linear succession of commits.