

What is Git?

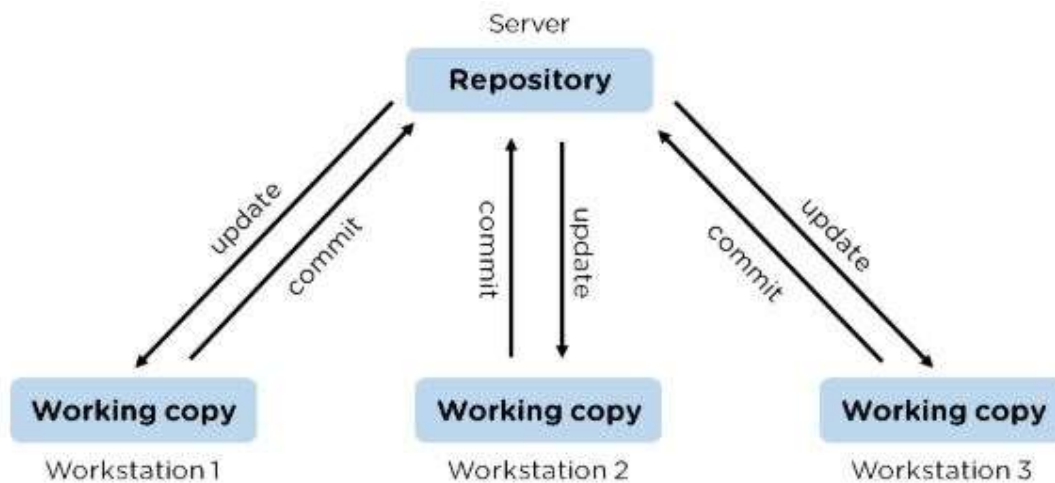
[Git](#) is a version control system for tracking changes in computer files and is used to help coordinate work among several people on a project while tracking progress over time. In other words, it's a tool that facilitates source code management in software development.

Git favors both programmers and non-technical users by keeping track of their project files. It enables multiple users to work together and handles large projects efficiently.

What do you understand by the term 'Version Control System'?

A version control system (VCS) records all the changes made to a file or set of data, so a specific version may be called later if needed.

This helps ensure that all team members are working on the latest version of the file



What is GitHub?

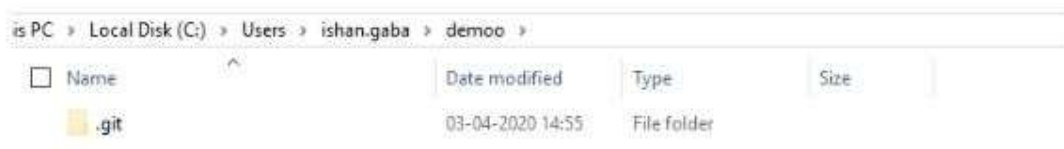
To provide Internet hosting for version control and software development, GitHub makes use of Git.

What benefits come with using GIT?

- Data replication and redundancy are both possible.
- It is a service with high availability.
- There can only be one Git directory per repository.
- Excellent network and disc performance are achieved.
- On any project, collaboration is very simple.

What is a Git repository?

Git repository refers to a place where all the Git files are stored. These files can either be stored on the local repository or on the remote repository.



How can you initialize a repository in Git?

If you want to initialize an empty repository to a directory in Git, you need to enter the git init command. After this command, a hidden .git folder will appear.

```
SL-LP-DNS-0223+Taha@SL-LP-DNS-0223 MINGW64 ~/Git_demo/FirstRepo
$ pwd
/c/Users/Taha/Git_demo/FirstRepo

SL-LP-DNS-0223+Taha@SL-LP-DNS-0223 MINGW64 ~/Git_demo/FirstRepo
$ git init
Initialized empty Git repository in C:/Users/Taha/Git_demo/FirstRepo/.git/

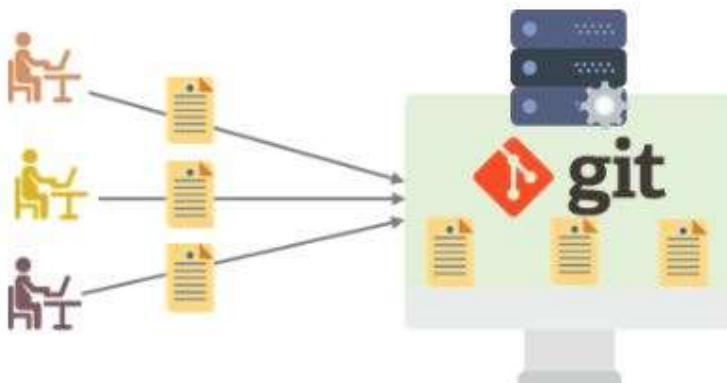
SL-LP-DNS-0223+Taha@SL-LP-DNS-0223 MINGW64 ~/Git_demo/FirstRepo (master)
$ |
```

Name a few Git commands with their function.

- Git config - Configure the username and email address
- Git add - Add one or more files to the staging area
- Git diff - View the changes made to the file
- Git init - Initialize an empty Git repository
- Git commit - Commit changes to head but not to the remote repository

What are the advantages of using Git?

- Faster release cycles
- Easy team collaboration
- Widespread acceptance
- Maintains the integrity of source code
- [Pull requests](#)



What is the correct syntax to add a message to a commit?

```
git commit -m "x files created"
```

What does git pull origin master do?

The git pull origin master fetches all the changes from the master branch onto the origin and integrates them into the local branch.

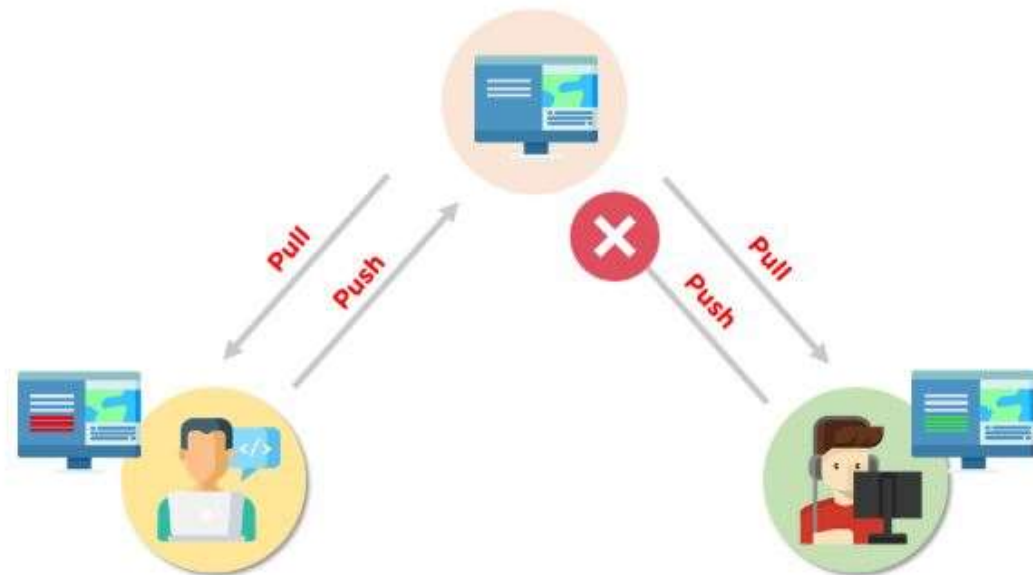
git pull = git fetch + git merge origin/ master

After having gone through the beginner level Git interview questions, let us now look at intermediate GIT interview questions and answers.

What do you understand about the Git merge conflict?

A [Git merge conflict](#) is an event that occurs when Git is unable to resolve the differences in code between the two commits automatically.

Git is capable of automatically merging the changes only if the commits are on different lines or branches.



How do you resolve conflicts in Git?

Here are the steps that will help you resolve conflicts in Git:

- Identify the files responsible for the conflicts.
- Implement the desired changes to the files
- Add the files using the git add command.
- The last step is to commit the changes in the file with the help of the git commit command.

What is the process to revert a commit that has already been pushed and made public?

There are two processes through which you can revert a commit:

1. Remove or fix the bad file in a new commit and push it to the remote repository. Then commit it to the remote repository using:

```
git commit -m "commit message"
```

2. Create a new commit to undo all the changes that were made in the bad commit. Use the following command:

```
git revert <commit id>
```

What does git clone do?

Git clone allows you to create a local copy of the remote GitHub repository. Once you clone a repo, you can make edits locally in your system rather than directly in the source files of the remote repo

What is Git stash?

Let's say you're a developer and you want to switch branches to work on something else. The issue is you don't want to make commits in uncompleted work, so you just want to get back to this point later. The solution here is the Git stash.

Git stash takes your modified tracked files and saves it on a stack of unfinished changes that you can reapply at any time. To go back to the work you can use the stash pop.

What does the git reset --mixed and git merge --abort commands do?

git reset --mixed is used to undo changes made in the working directory and staging area.

git merge --abort helps stop the merge process and return back to the state before the merging began.

How do you find a list of files that has been changed in a particular commit?

The command to get a list of files that has been changed in a particular commit is:

```
git diff-tree -r {commit hash}
```

- -r flag allows the command to list individual files
- commit hash lists all the files that were changed or added in the commit.

What is the use of the git config command?

The git config command is used to set git configuration values on a global or local level. It alters the configuration options in your git installation. It is generally used to set your Git email, editor, and any aliases you want to use with the git command.

Explain these commands one by one– git status, git log, git diff, git revert <commit>, git reset <file>.

- Git status - It shows the current status of the working directory and the staging area.
- Git revert<commit> - It is used for undoing changes to a repository's commit history.
- Git log- It is a key tool for reviewing and reading the history of everything that happens to a repository.
- Git diff- It is a multi-purpose Git command that performs a diff function on Git data sources when executed.
- Git reset<file>- it is used to unstage a file.