git

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CONTENTS:

WHAT IS GIT?

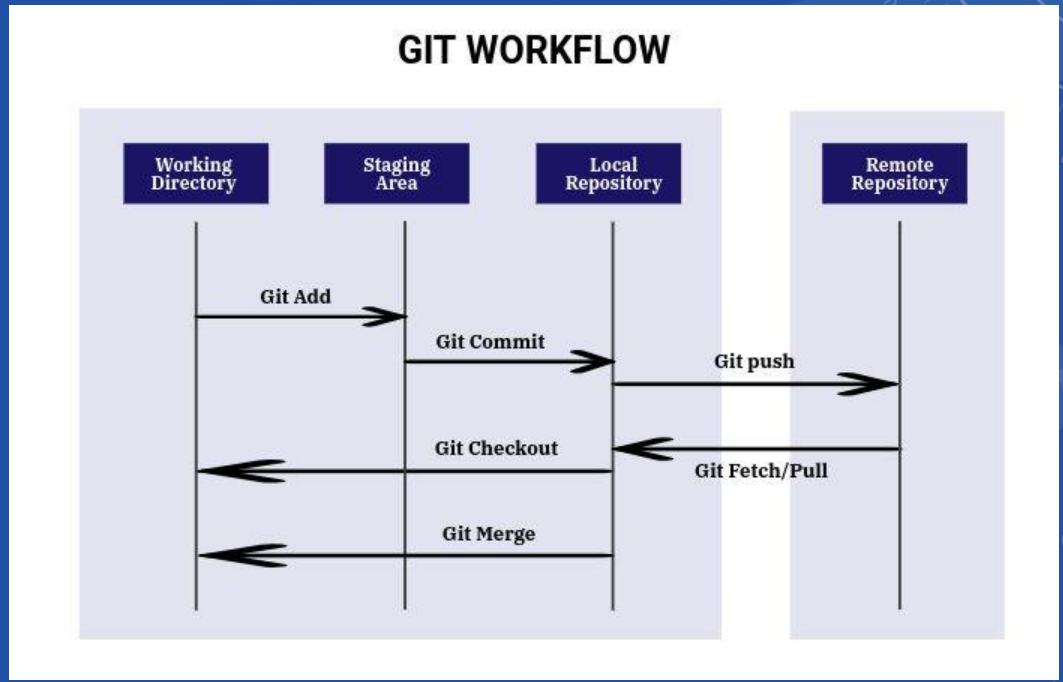
- Git is a distributed version control system (VCS) designed to handle everything from small to very large projects with speed and efficiency.
- Designed to do version control on linux kernel.
- Git is free and open source
- GIt was created by Linus Torvalds in 2005 and has since become one of the most popular version control systems in the world.

VERSION CONTROL SYSTEM

- A version control system (VCS) is a software tool that helps developers track changes to their code and collaborate with others efficiently.
- It allows multiple developers to work on the same codebase simultaneously, keeping track of each modification made to the files over time.
- This provides a history of changes and makes it easy to revert to previous versions if needed

GIT WORKFLOW

- Working directory means your local machine here you can do your work.
- If you want to add files into the staging area use command git add filename .
- Now you want to commit your changes in local repository then we use command git commit –m “message”.
- If you want to push your changes to your remote repo(github,gitlab etc…) use the command git push then public can access your files.



GIT REPOSITORIES

1. Local repository:

- A local repository is a copy of a Git project that is stored on your local machine.
- create a new local repository, you can use the git init command within the directory where you want to start version controlling your project.
- Local repositories allow you to work offline and track changes to your codebase without needing a network connection.
- You can perform various Git operations within the local repository, such as making commits, creating branches, and merging changes.
- Git stores all the version history and metadata in a hidden .git directory within the project directory.

2. Remote repository:

- A remote repository is hosted on a server or a remote location, accessible to multiple users over a network.
- Remote repositories are used for collaboration and sharing code between team members.
- Common remote repository hosting services include GitHub, GitLab, Bitbucket, and others.
- When you clone a remote repository to your local machine using “git clone url”, you create a complete copy of the repository on your system, including its history.
- After making changes to your local repository, you can push your commits to the remote repository using git push, thereby updating the remote with your changes.
- Likewise, to get the latest changes from the remote repository into your local repository, you can use git pull.

GIT BRANCHES

- Branching is a fundamental feature of Git.
- It Allows developers to work on new features, bug fixes, or experiments in an isolated environment without affecting the main codebase.
- In Git, the default and usually the primary branch is named "master" or "main" .
- To start working on a new feature , you create a new branch. Branches are independent lines of development that allow you to make changes separately from the main branch.
- You can create a new branch using the “git branch <branch name> “command.
- When you've completed the changes on the branch and want to merge them into the main branch, you perform a merge.
- First, switch to the main branch using git checkout (or)git switch. Then, use the git merge command to merge the changes from the branch into the main branch.

REFERENCE

- Click on below link to get full documentation of git.
- https://github.com/ajay77777777/intern.git


Any Questions