16/11/2023

1) You are working on a project with multiple collaborators. Describe the steps to clone the remote repository to your local machine.

Ans: git clone <repository\_url>

2) Explain the difference between `git pull` and `git fetch`. When would you use one over the other?

The key difference between git fetch and pull is that git pull copies changes from a remote repository directly into your working directory, while git fetch does not.

The git fetch command only copies changes into your local Git repo. The git pull command does both

* Use **git fetch** when you want to inspect the changes fetched from the remote repository before merging them. This allows you to review and decide when and how to integrate the changes.
* Use **git pull** when you want a quick way to fetch the changes from the remote and automatically merge them into your working branch. This is convenient for routine updates where you don't need to inspect changes beforehand.

3) You've made changes to multiple files in your working directory, and you want to stage all changes for the next commit. Provide the command to stage all changes at once.

Ans: git status

4) Describe the purpose and usage of the following Git command: `git log`. Include any relevant options to customize the output.

The git log command displays committed snapshots. It lets you list the project history, filter it, and search for specific changes.

**git status** helps you understand the state of your working directory and staging area, allowing you to decide what changes to commit or discard.

5) You've created a new branch named `feature-branch` to work on a new feature. Explain the steps to switch to this branch from the `main` branch.

Git branch feature-branch

git checkout -b ＜new-branch＞

6) You want to undo the last commit without losing the changes in your working directory. Provide the command to achieve this.

To undo the last commit without losing the changes in your working directory, you can use the following command:

git reset HEAD^

If you also want to discard the changes in your working directory and revert them to the state of the previous commit, you can follow the **git reset** command with

git checkout .

7) Explain the concept of Git merge conflicts. How would you resolve a merge conflict during a `git merge` operation?

git checkout branch-to-merge-into

git merge feature-branch

git status

8) You have a commit history with multiple branches, and you want to visualize the commit graph. Describe the command to achieve this using `git log`.

The --graph option adds ASCII art-based graph lines that illustrate the relationships between commits and branches.

git log --graph --oneline –all

* **--graph**: Draws a text-based graph of the commit history.
* **--oneline**: Condenses the commit information to a single line, making the graph more compact and readable.
* **--all**: Shows all branches, not just the current one, in the graph.

9) You've accidentally deleted a file from your working directory and want to restore it from the last commit. Provide the command to restore a specific file

To restore a specific file from the last commit in Git, you can use the following command:

git checkout HEAD -- path/to/your/file

replace **path/to/your/file** with the actual path and filename of the file you want to restore.

if the file was deleted in the working directory, you can also use the following command to achieve the same result:

10) You are collaborating on a project, and a teammate has pushed changes to the remote repository. Explain the steps to incorporate these changes into your local branch without making a new commit

If your teammate has pushed changes to the remote repository, and you want to incorporate those changes into your local branch without making a new commit, you can use the following steps. Assuming you are on your local branch and want to pull the latest changes from the remote:

1. **Fetch the Latest Changes:**

git fetch origin

1. **Merge the Changes into Your Local Branch:**

git merge origin/your-teammate's-branch