Git Commands Cheat Sheet with Explanation

Git Basics

1. git init

- Initializes a new Git repository in your project folder.

2. git clone <repository-url>

- Downloads a repository from a remote source like GitHub.

3. git add <file>

- Stages a specific file for commit.
- Use 'git add .' to stage all modified files.

4. git status

- Shows the status of changes as untracked, modified, or staged.

5. git commit -m "message"

- Records the staged snapshot with a descriptive message.

6. git push

- Uploads local repository content to a remote repository.

7. git pull

- Fetches and merges changes from a remote repository to your local one.

8. git fetch

- Downloads new data from a remote repository but doesn't merge it automatically.

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Branching

9. git branch

- Lists all branches in the current repository.

10. git branch <branch-name>

- Creates a new branch.

11. git checkout <branch-name>

- Switches to another branch.

12. git checkout -b <branch-name>

- Creates a new branch and switches to it immediately.

13. git merge <branch-name>

- Merges a specified branch into the current branch.

14. git branch -d <branch-name>

- Deletes a branch locally.

Remote Repositories

15. git remote add origin <url>

- Connects your local repository to a remote server.

16. git remote -v

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- Displays the URLs of the remote connections.

17. git push -u origin <branch-name>

- Pushes the branch to remote and sets it as the default upstream branch.

Undoing Changes

18. git reset <file>

- Unstages a file while retaining its changes.

19. git reset --hard

- Resets the working directory to match the last commit.

20. git revert <commit>

- Creates a new commit that undoes the changes from a previous commit.

Stashing

21. git stash

- Temporarily saves uncommitted changes.

22. git stash pop

- Applies the most recently stashed changes and removes them from the stash list.

Logs and History

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23. git log

- Shows the commit history.

24. git log --oneline

- Shows the commit history in a compact form.

Tagging

25. git tag <tagname>

- Creates a new tag.

26. git push origin <tagname>

- Pushes a tag to the remote repository.

27. git tag -d <tagname>

- Deletes a tag locally.

Other Useful Commands

28. git config --global user.name "Your Name"

- Sets your username for Git commits.

29. git config --global user.email "you@example.com"

- Sets your email for Git commits.

30. git diff

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- Shows the file differences not yet staged.

31. git diff --staged

- Shows the file differences between the staged changes and the last commit.