Beginner Git and GitHub Notes

Git Configuration

Command: git config --global user.name "Your Name"

Explanation: Sets your Git username globally (visible in all repositories).

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

Explanation: Sets your email address globally for Git commits.

Command: git config --global color.ui auto

Explanation: Enables color-coded output for better readability.

Command: git config --list

Explanation: Lists all Git configurations currently set.

Repository Setup

Command: git init

Explanation: Initializes a new Git repository in the current directory.

Command: git clone <repository-link>

Explanation: Clones a repository from GitHub or any other remote server.

Command: cd <directory-name>

Explanation: Changes directory into the cloned/created repo folder.

Command: mkdir <directory-name>

Explanation: Creates a new directory.

Command: ls / ls -a

Explanation: Lists files in the directory (including hidden files with -a).

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Staging

Command: git add <filename>

Explanation: Stages a specific file to be committed.

Command: git add .

Explanation: Stages all modified and new files in the current directory.

Command: git add -A

Explanation: Stages all files including deleted ones.

Committing

Command: git commit -m "message"

Explanation: Commits staged changes with a message.

Command: git commit -a -m "message"

Explanation: Adds and commits all tracked changes in one step.

Inspect Changes

Command: git status

Explanation: Shows the current state of the working directory and staging area.

Command: git diff

Explanation: Shows changes that are not staged.

Command: git diff --staged

Explanation: Shows changes that are staged but not committed.

Command: git log

Explanation: Displays commit history.

Command: git log -p -<number>

Explanation: Shows patch output for the last n commits.

Undo Changes

Command: git checkout <file>

Explanation: Recovers a file to last committed version.

Command: git checkout -f

Explanation: Forces recovery of all files to last commit.

Command: git reset <file>

Explanation: Unstages a file while keeping its changes locally.

File Removal

Command: git rm <file>

Explanation: Removes file from project and stages removal.

Command: git rm --cached <file>

Explanation: Removes file only from staging (keeps locally).

Branching

Command: git branch

Explanation: Lists all branches.

Command: git branch <branch-name>

Explanation: Creates a new branch.

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Command: git checkout <branch-name>

Explanation: Switches to the specified branch.

Command: git checkout -b <branch-name>

Explanation: Creates and switches to a new branch.

Command: git checkout master

Explanation: Switches to master/main branch.

Command: git branch -d <branch-name>

Explanation: Deletes the specified branch (must switch from it first).

Merging

Command: git merge <branch>

Explanation: Merges changes from one branch into the current branch.

Remote

Command: git remote add <alias> <url>

Explanation: Adds a remote repository.

Command: git fetch <alias>

Explanation: Fetches all branches from the remote.

Command: git pull

Explanation: Fetches and merges changes from the remote.

Command: git push origin main

Explanation: Pushes local commits to the remote 'main' branch.

Command: git push -u origin main

Explanation: Pushes and sets upstream (tracking) for main branch.

.gitignore

Command: touch .gitignore

Explanation: Creates a .gitignore file to ignore specific files.

Command: *.log / /node_modules/

Explanation: Examples of patterns inside .gitignore.

Clear Terminal

Command: clear

Explanation: Clears the terminal screen.