Day 5 - Git Bash Commands & Concepts

Basic Git Commands

1. **Check Current Directory**
   - `pwd` → Prints the **present working directory**.
2. **Create & Navigate Directories**
   - `mkdir <folder_name>` → Creates a new **directory**.
   - `cd <path>` → Navigates to a specified **directory**.

Git Configuration

- `git config --global user.name "Your Name"`
  - Sets the **global username** for Git.
- `git config --global user.email "your.email@example.com"`
  - Sets the **global email** for Git.

Git Repository Initialization

- `git init`
  - Initializes a **new Git repository** in the current directory.
- `echo "text we want to save" > file_name.txt`
  - Creates a file and writes the given text into it.

Git Stash (Saving Local Changes Temporarily)

- `git stash`
  - Saves **uncommitted** changes temporarily without committing.
- `git stash list`
  - Displays the list of **stashed changes**.
- `git stash apply`
  - Restores the **most recent stash** but **keeps it in the stash list**.
- `git stash pop`

    - Restores the **most recent stash** and **removes it from the stash list**.
- `git stash drop stash@{0}`
    - Deletes a **specific stash** (e.g., `stash@{0}`).
- `git stash clear`
    - Removes **all stashed changes**.
- `git stash push -m "message"`
    - Creates a **named stash** with a custom message.

Scenario: Handling Merge Conflicts

Issue:

- Changes were made to the **main branch** from the UI.
- Local repository also has changes.
- A `git pull` would cause a **merge conflict**.

Steps Followed

1. **Switch to Feature Branch**
    - `git checkout feature/intrest`
2. **Modify File & Switch to Main**
    - `vi a.txt` (edit file)
    - `git checkout main`
3. **Merge Attempt & Check Differences**
    - `git merge feature/intrest` (attempt to merge changes)
    - `git diff a.txt` (check the differences in `a.txt`)
4. **Pull Changes from Remote Main**
    - `git pull origin main` (fetch latest changes)
5. **Add & Commit Changes**
    - `git add a.txt`
    - `git commit -m "Changes"`
6. **Push Changes to Remote Repository**
    - `git push -u origin main`
7. **Work on Another File (module.py)**
    - `vi module.py` (edit a new file)
    - `git add module.py`
    - `git commit -m "Changes adding Jinesh"`
    - `git push -u origin main`
8. **Merge & Final Commit**

  - `git pull`
  - `git merge`
  - `git add module.py`
  - `git commit -m "Changes"`
  - `git push -u origin main`

Key Git Commands Summary

Command	Description
`git init`	Initialize a Git repository.
`git checkout <branch>`	Switch to a specific branch.
`git merge <branch>`	Merge changes from another branch.
`git pull origin main`	Fetch and merge changes from the remote main branch.
`git add <file>`	Add a file to staging.
`git commit -m "message"`	Commit staged changes.
`git push -u origin main`	Push commits to the remote repository.
`git diff <file>`	Show differences in a file.
`git stash`	Temporarily save uncommitted changes.

`git stash apply`	Restore stashed changes without removing them.
`git stash pop`	Restore and remove the stash.
`git stash list`	Show all stashed changes.
`git stash clear`	Delete all stashed changes.