Git & GitHub Tutorial

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What is Git?

Git is a version control system that tracks changes in your code and helps you collaborate with others.

What is GitHub?

GitHub is a cloud-based platform that hosts your Git repositories online and allows collaboration.

Basic Git Setup:

git config --global user.name "Tauheed khan"

git config --global user.email "tauheedk774@gmail.com"

Basic Git Commands:

1.git init Initialize a new Git repository

2.git clone <url> Clone an existing repository from GitHub

3.git status Check the status of files in the repo

4.git add <file> Add file(s) to staging area

5.git add . Add all changes to staging area

6.git commit -m "message" Commit changes with a

7.message git push Push changes to remote repository

8.git pull Pull latest changes from remote repository

9.git log View commit history

10.git branch Show available branches

11.git branch <name> Create a new

12.branch git checkout <branch> Switch to a branch

13.git merge <branch> Merge branch into current branch

git remote -v Show remote URL details

14.git remote add origin <url> Add remote repository

15.git push -u origin <branch> Push current branch to remote

Typical Git Workflow:

```
git init
git add
git commit -m "Initial commit"
git remote add origin <repo-url>
git push -u origin main
```

Cloning and Collaborating:

```
git clone <repo-url>
git checkout -b new-feature
git add .
git commit -m "Added new feature"
git push origin new-feature
```

Some Useful Commands:

```
git stash              Temporarily save changes
git stash pop          Apply stashed changes
git diff               Show changes not staged
git reset --hard HEAD  Undo all local changes
git rm <file>          Remove file from repo
```

GitHub Flow:

1. Fork repository
2. Clone repository
3. Create a branch
4. Add changes
5. Commit changes
6. Push changes
7. Create Pull Request (PR)
8. Merge PR