Git & GitHub Cheatsheet

1. Setup

```
git config --global user.name "Your Name"
git config --global user.email "your@email.com"
git config --list    # check config
```

2. Start a Repo

```
git init                  # start a new repo in current folder
git clone <url>           # clone from GitHub
```

3. Basic Workflow

```
git status                # check file status
git add <file>            # stage a file
git add .                 # stage all files
git commit -m "message"   # commit changes
git log                   # view commit history
git diff                  # show unstaged changes
git diff --staged         # show staged changes
```

4. Branching

```
git branch                # list branches
git branch <name>         # create branch
git checkout <name>       # switch branch
git checkout -b <name>    # create + switch
git merge <branch>        # merge branch into current
git branch -d <name>      # delete branch
```

5. Remote (GitHub)

```
git remote -v                         # list remotes
git remote add origin <url>           # add remote
git push -u origin main               # push main branch
git push                              # push changes
git pull origin main                  # fetch + merge
git fetch                             # fetch changes (no merge)
```

6. Undo / Fix Mistakes

```
git restore <file>          # discard changes (unstaged)
git restore --staged <file> # unstage file
git reset --hard HEAD       # reset to last commit
git reset <commit>          # reset to specific commit
git revert <commit>         # create new commit that undoes changes
```

7. Stash (Save Work Without Commit)

```
git stash              # save uncommitted changes
git stash list         # view stashes
git stash apply        # reapply stash
git stash pop          # reapply + remove
```

8. Tags (Releases)

```
git tag v1.0           # create tag
git tag                # list tags
git show v1.0          # show tag details
git push origin v1.0   # push tag
```

9. Collaboration (GitHub)

```
git fork <repo_url>    # (on GitHub UI)
git clone <your_fork>  # clone fork
git remote add upstream <original_repo>
git fetch upstream
git merge upstream/main
git push origin main
```

10. Useful Shortcuts

```
git log --oneline --graph --all   # compact history with branches
git commit -am "msg"              # add + commit tracked files
git push --force                  # force push (be careful!)
```