GitHub Basic Commands: Creating and Maintaining a Repo

Let's learn the **essential Git and GitHub commands** you need to start, maintain, and manage a repository, including making and switching branches.

1. Create a New Repository (on GitHub)

- Go to your GitHub account → click **New Repository**
- Name your repo, add a README & MIT License, then click **Create repository**.

2. Initialize Git in Your Project

Open your terminal and run:

```
git init
```

This starts version control in your folder.[2][3]

3. Add Remote (link local repo to GitHub)

Get the repo URL from GitHub and run:

```
git remote add origin https://github.com/username/repo.git
```

4. Add Files and Make First Commit

Add all changed files and commit:

```
git add .                # Stage all files

git commit -m "Initial commit"   # Commit with message
```

5. Push Work to GitHub

Send local changes to your online repo:

```
git push -u origin main     # Push code to the main branch (the first time)
```

6. Create a Branch

Branches let you work on features safely. To make a branch:

```
git branch feature-one      # Create a new branch 'feature-one'
```

7. Switch (Checkout) to a Branch

Move to the branch for work:

```
git checkout feature-one    # Switch to branch 'feature-one'
```

Or in git 2.23 and above:

```
git switch feature-one
```

8. Show Existing Branches

List all branches and see which is active:

```
git branch
```

9. Merge a Branch Back to Main

Switch to `main` and merge changes from another branch:

```
git checkout main      # Go to main branch
git merge feature-one  # Merge 'feature-one' into main
```

10. Sync with GitHub (Pull Changes, Push Changes)

- **Get changes from GitHub:**

  ```
  git pull origin main       # Pull updates from GitHub
  ```

- **Upload changes to GitHub:**

```
git push origin feature-one  # Push 'feature-one' branch to GitHub
```

Quick Checklist For Daily Work

- `git status` -- See file changes
- `git add <file>` -- Track new/changed files
- `git commit -m "message"` -- Save a snapshot
- `git push` -- Send changes to GitHub
- `git pull` -- Get the latest from GitHub

```
- `git checkout <branch>` / `git switch <branch>` -- Swap branches
```

- `git merge <branch>` -- Combine work from branches