

Rebase rewrites history. Can be used in personal branches. But must be avoided in public branches like master. **git rebase <<branch name>>**.

Merge makes a separate commit.

git fetch downloads the changes into a separate branch.

git pull fetches the changes from remote branch and merges it to the master branch. Git fetch should be preferred over pull to avoid some unexpected changes.

Assignment

A terminal window with a dark background and light-colored text. It shows the steps to initialize a new Git repository. The first command is 'mkdir first_git_repo'. The second command is 'cd first_git_repo'. The third command is 'git init', followed by the output 'Initialized empty Git repository in /home/dhrkp...'. The fourth command is 'vi hello_world'. The terminal also shows the current directory as '~' and the current branch as 'master' in a green bar.

```
mkdir first_git_repo
cd first_git_repo
git init
Initialized empty Git repository in /home/dhrkp...
vi hello_world
```

```
git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        hello_world

nothing added to commit but untracked files present (use "git add" to track)
```

```
~/first_git_repo git master ?1
git add .

~/first_git_repo git master +1
git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   hello_world
```

```
~/first_git_repo git master +1
git commit -m "Initial Commit"
[master (root-commit) f208e77] Initial Commit
1 file changed, 1 insertion(+)
create mode 100644 hello_world

~/first_git_repo git master
git remote add origin git@github.com:dhruv-kumar-patwari/zemoso-training.git

~/first_git_repo git master
git branch -M main
```

```
~/first_git_repo git P main 128 ✖ 05:25:
git remote add newOrigin https://github.com/dhruv-kumar-patwari/zemoso-training.git

~/first_git_repo git P main ✓ 05:26:
git branch -M main

~/first_git_repo git P main ✓ 05:26:
git push -u newOrigin main
Username for 'https://github.com': dhruv-kumar-patwari
Password for 'https://dhruv-kumar-patwari@github.com':
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 1.39 KiB | 1.39 MiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/dhruv-kumar-patwari/zemoso-training.git
 * [new branch] main -> main
Branch 'main' set up to track remote branch 'main' from 'newOrigin'.
```

```
~/first_git_repo git P main ✓ 26s
code hello_world

~/first_git_repo git P main ✓
git diff

~/first_git_repo git P main !1 ✓ 10s
git status
On branch main
Your branch is up to date with 'newOrigin/main'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   hello_world

no changes added to commit (use "git add" and/or "git commit -a")

~/first_git_repo git P main !1 ✓
git diff HEAD hello_world

~/first_git_repo git P main !1 ✓ 6s
git add .
```

```
~/first_git_repo main +1
git commit -m "Changed 'to' to 'dhruv'"
[main 75e339e] Changed 'to' to 'dhruv'
1 file changed, 1 insertion(+), 1 deletion(-)
rewrite hello_world (97%)

~/first_git_repo main ↑1
git diff

~/first_git_repo main ↑1
git log
```

```
git push
Username for 'https://github.com': dhruv-kumar-patwari
Password for 'https://dhruv-kumar-patwari@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 458 bytes | 458.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/dhruv-kumar-patwari/zemoso-training.git
f208e77..75e339e main -> main
```



```
~/first_git_repo main ... INT x 1
git revert HEAD
[main 64f3653] Revert "Changed 'to' to 'dhruv'"
1 file changed, 1 insertion(+), 1 deletion(-)
rewrite hello_world (97%)
ion(-)
~/first_git_repo main ?1 ✓
git log
~/first_git_repo main ?1
git push
Username for 'https://github.com': dhruv-kumar-patwari
Password for 'https://dhruv-kumar-patwari@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 469 bytes | 469.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/dhruv-kumar-patwari/zemoso-training.git
75e339e..64f3653 main -> main
00 KiB/s, done.
```

```
~/first_git_repo main 22s
git branch new_branch

~/first_git_repo main
git checkout new_branch
Switched to branch 'new_branch'

~/first_git_repo git new_branch
code hello_world

~/first_git_repo git new_branch
git status
On branch new_branch
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   hello_world

no changes added to commit (use "git add" and/or "git commit -a")

~/first_git_repo git new_branch !1
git diff
```

```
~/first_git_repo main 22s
git branch new_branch


~/first_git_repo main
git checkout new_branch
Switched to branch 'new_branch'

~/first_git_repo git new_branch
code hello_world



~/first_git_repo git new_branch
git status
On branch new_branch
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   hello_world

no changes added to commit (use "git add" and/or "git commit -a")



~/first_git_repo git new_branch !1
git diff
```

  ~
`mkdir git_clone_repo`

  ~
`cd git_clone_repo`

  ~/git_clone_repo
`git clone git@github.com:dhruv-kumar-patwari/zemoso-training.git`
Cloning into 'zemoso-training'...
git@github.com: Permission denied (publickey).
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.

  ~/git_clone_repo 128 ✖ 6s
`git clone https://github.com/dhruv-kumar-patwari/zemoso-training.git`
Cloning into 'zemoso-training'...
remote: Enumerating objects: 11, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 11 (delta 3) reused 9 (delta 2) pack-reused 0