

Git : Git exercise

Started

Follow the steps :

1. Create a repository

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git init
Initialized empty Git repository in /home/ubuntu/Desktop/github repos/Git_Exercise_1/.git/
```

2. Make some changes -- add some files, change content of some files

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git status
On branch master

No commits yet

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

    File1

nothing added to commit but untracked files present (use "git add" to track)
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
```

3. commit changes

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git commit -m "Added File1"
[master (root-commit) 1abae74] Added File1
 1 file changed, 1 insertion(+)
 create mode 100644 File1
```

4. repeat steps 1-3 for 2 more times. try to remove and ignore some files . Use git diff before each commit.

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git status
On branch master

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

    File2

nothing added to commit but untracked files present (use "git add" to track)
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git commit -m "Added File2"
[master 7f46826] Added File2
 1 file changed, 1 insertion(+)
 create mode 100644 File2
```

```
rm 'File2'
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ ls
File1 File3
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        deleted:    File2

ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git commit -m "Removed file2"
[master 40733bd] Removed file2
1 file changed, 1 deletion(-)
delete mode 100644 File2
```

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ touch .gitignore
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   .gitignore

no changes added to commit (use "git add" and/or "git commit -a")
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git commit -m "Added gitignore"
[master d5bf624] Added gitignore
1 file changed, 1 insertion(+)
```

5. create changes and revert those changes using git when those changes are not added to staging area

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   File1

no changes added to commit (use "git add" and/or "git commit -a")
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git checkout File1
```

6. create changes and revert those changes after adding changes to staging area

```

ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   File1

no changes added to commit (use "git add" and/or "git commit -a")
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git reset HEAD
Unstaged changes after reset:
M       File1
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git checkout File1

```

7. create change and revert those changes after committing those changes .

```

ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git commit -m "Changed File1"
[master 450a787] Changed File1
 1 file changed, 1 insertion(+), 1 deletion(-)
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git log
commit 450a78775c39db739a7a04589d839195a8c32e34 (HEAD -> master)
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:42:10 2021 +0530

    Changed File1

commit d5bf6240eb29f28bf4f1273c6d76b0eaa8c6a414
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:36:52 2021 +0530

    Added gitignore

```

```

ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git reset --hard d5bf6240eb29f28bf4f1273c6d76b0eaa8c6a414
HEAD is now at d5bf624 Added gitignore
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git log
commit d5bf6240eb29f28bf4f1273c6d76b0eaa8c6a414 (HEAD -> master)
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:36:52 2021 +0530

    Added gitignore

commit 688ebfab60fb7a19ebc2d5485541f3b2ebcf054f

```

8. Check repository status before adding changes to staging area, after adding changes to staging area and after committing changes .

```

ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   File1

```

9. Display all the commits .

```

ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git log
commit d5bf6240eb29f28bf4f1273c6d76b0eaa8c6a414 (HEAD -> master)
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:36:52 2021 +0530

    Added gitignore

commit 688ebfab60fb7a19ebc2d5485541f3b2ebcf054f
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:36:16 2021 +0530

    Removed gitignore

commit d4f5db67241d41e94951d92e1b4e4d73816d065a
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:21:09 2021 +0530

    Added ditignore

commit 40733bd798715fb4c42d97463a301b82c8aba21c
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:02:43 2021 +0530

    Removed file2

commit fb5c9dc63dea3134f8eab45e5fe6c698096bc68f
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 22:57:30 2021 +0530

    Added File3

commit 7f4682637d80cd41b82436aa3f22b346d81d62c6
:...skipping...
commit d5bf6240eb29f28bf4f1273c6d76b0eaa8c6a414 (HEAD -> master)
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:36:52 2021 +0530

    Added gitignore

commit 688ebfab60fb7a19ebc2d5485541f3b2ebcf054f
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:36:16 2021 +0530

    Removed gitignore

```

10.Display a specific commit .

```

ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git show 688ebfab60fb7a19ebc2d548554
commit 688ebfab60fb7a19ebc2d5485541f3b2ebcf054f
Author: yatinagg <yatinagg12@gmail.com>
Date:   Fri Oct 22 23:36:16 2021 +0530

    Removed gitignore

diff --git a/gitignore b/gitignore
deleted file mode 100644
index a0ad61a..0000000
--- a/gitignore
+++ /dev/null
@@ -1 +0,0 @@
-File3

```

11.create branches called "feature1" and "feature2" from master.


```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git branch
* master
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git branch feature1
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git branch feature2
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git branch
feature1
feature2
* master
```

11 . Delete branch "feature2".

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git branch -d feature2
Deleted branch feature2 (was d5bf624).
```

12.Make some commits on "feature1".

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git checkout feature1
M       File1
Switched to branch 'feature1'
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git commit -m "feature1 change"
[feature1 802e9b1] feature1 change
1 file changed, 1 insertion(+), 1 deletion(-)
```

13.Make some commits on branch "master".

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git checkout master
Switched to branch 'master'
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git commit -m "master change"
[master 7144428] master change
1 file changed, 1 insertion(+), 1 deletion(-)
```

14.merge branch "feature1" in "master" (make some conflicts by changing same file on same line in both the branches)

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git merge feature1
Auto-merging File1
CONFLICT (content): Merge conflict in File1
Automatic merge failed; fix conflicts and then commit the result.
```

15.create branch "feature2" from master .

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git branch
feature1
* master
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git checkout -b feature2
Switched to a new branch 'feature2'
```

15.Make some commits on "feature2".

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git commit -m "Feature2 change"
[feature2 313d2e3] Feature2 change
1 file changed, 1 insertion(+)
```

16. Make some commits on branch "master".

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git commit -m "Master branch change"
[master a7c1905] Master branch change
1 file changed, 1 insertion(+)
```

17. rebase branch "master" in "feature2" (make some conflicts by changing same file on same line in both the branches).

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git checkout feature2
Switched to branch 'feature2'
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git rebase master
First, rewinding head to replay your work on top of it...
Applying: Feature2 change
Using index info to reconstruct a base tree...
M   File3
Falling back to patching base and 3-way merge...
Auto-merging File3
CONFLICT (content): Merge conflict in File3
error: Failed to merge in the changes.
Patch failed at 0001 Feature2 change
Use 'git am --show-current-patch' to see the failed patch

Resolve all conflicts manually, mark them as resolved with
"git add/rm <conflicted_files>", then run "git rebase --continue".
You can instead skip this commit: run "git rebase --skip".
To abort and get back to the state before "git rebase", run "git rebase --abort".

ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add/rm File3
git: 'add/rm' is not a git command. See 'git --help'.
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git add .
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git rebase --continue
Applying: Feature2 change
```

18. find the differences between "merge" and "rebase" in above cases.

Rebase will bring back the old master before feature2 commits were added and merge will fuse the feature2 changes into master branch.

19. Use git stash

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git stash
Saved working directory and index state WIP on feature2: a22e210 Feature2 change
```

20. create a repository on github for your working repository and push changes on remote repository.

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git remote add origin https://github.com/yatinagg/Git_Exercise_1.git
```

```
ubuntu@ubuntu-Vostro-3580:~/Desktop/github repos/Git_Exercise_1$ git push -u origin master
Username for 'https://github.com': yatinagg
Password for 'https://yatinagg@github.com':
Counting objects: 33, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (23/23), done.
Writing objects: 100% (33/33), 2.73 KiB | 310.00 KiB/s, done.
Total 33 (delta 6), reused 0 (delta 0)
remote: Resolving deltas: 100% (6/6), done.
To https://github.com/yatinagg/Git_Exercise_1.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
```