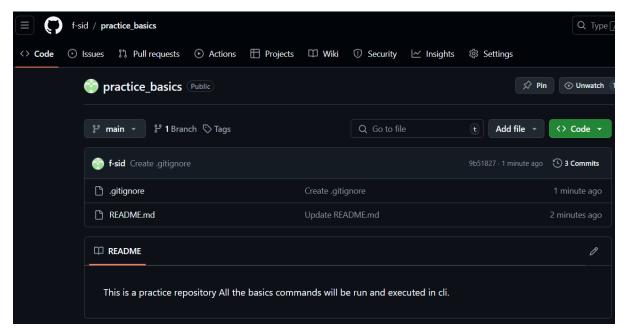
1)Install git.

```
[batman@ip-172-31-2-182 ~]$ git init
hint: Using 'master' as the name for the initial branch. This default branc
h name
hint: is subject to change. To configure the initial branch name to use in
all
hint: of your new repositories, which will suppress this warning, call:
hint: git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this comman
d:
hint: git branch -m <name>
Initialized empty Git repository in /home/batman/.git/
```

2) Create a repo in github with README.md and .ignore file.



3)Clone the created repo to local.

```
[batman@ip-172-31-2-182 ~]$ git clone git@github.com:f-sid/practice_basics.git
cloning into 'practice_basics'...
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 9 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (9/9), done.
[batman@ip-172-31-2-182 ~]$ ls
practice_basics test_script
[batman@ip-172-31-2-182 ~]$ cd practice_basics/
[batman@ip-172-31-2-182 practice_basics]$ ls
README.md
```

4) Create two files in local repo.

5) Commit two files and push to central Repository.

```
[batman@ip-172-31-2-182 practice_basics]$ git log -2
commit lad9edaf1d67f804e00afe6b08f0ea465b4ca6e0 (HEAD -> main)
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 10:46:36 2024 +0000

added two files

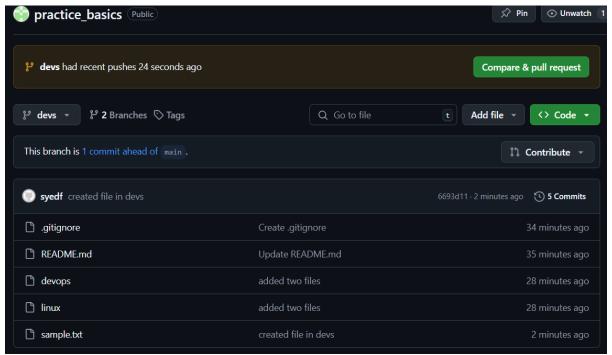
commit 9b51827fbe677774ada9cc295b222f34d0545f44 (origin/main, origin/HEAD)
Author: Farsaan Siddiqui <syedfs97@outlook.com>
Date: Wed Nov 6 16:10:44 2024 +0530

Create .gitignore
[batman@ip-172-31-2-182 practice_basics]$ git push -u origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 314 bytes | 314.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:f-sid/practice_basics.git
    9b51827..lad9eda main -> main
branch 'main' set up to track 'origin/main'.
[batman@ip-172-31-2-182 practice_basics]$ |
```

syedf added two files		1ad9eda - 23 minutes ago 🐧 4 Commits
	Create .gitignore	28 minutes ago
☐ README.md	Update README.md	29 minutes ago
devops	added two files	23 minutes ago
🖰 linux	added two files	23 minutes ago

6) Create a branch in local and create a sample file and push to central.

```
[batman@ip-172-31-2-182 practice_basics]$ git checkout devs
Switched to branch 'devs'
[batman@ip-172-31-2-182 practice_basics]$ touch sample.txt
[batman@ip-172-31-2-182 practice_basics]$ git add .
[batman@ip-172-31-2-182 practice_basics]$ git commit -m "created file in devs
[devs 6693d11] created file in devs
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 sample.txt
[batman@ip-172-31-2-182 practice_basics]$ git status
On branch devs
nothing to commit, working tree clean
[batman@ip-172-31-2-182 practice_basics]$ git push -u origin devs
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), done.
Total 2 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'devs' on GitHub by visiting:
remote: https://github.com/f-sid/practice_basics/pull/new/devs
remote:
To github.com:f-sid/practice_basics.git
* [new branch] devs -> devs
branch 'devs' set up to track 'origin/devs'.
```



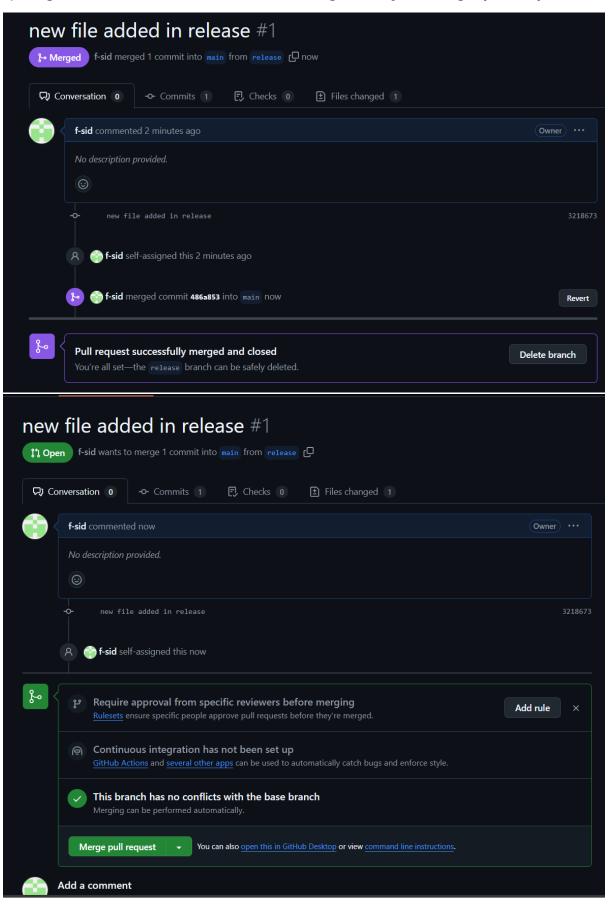
7) Create a branch in github and clone that to local.

```
[batman@ip-172-31-2-182 practice_basics]$ git pull remote: Enumerating objects: 1, done. remote: Counting objects: 100% (1/1), done. remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0) Unpacking objects: 100% (1/1), 900 bytes | 900.00 KiB/s, done. From github.com:f-sid/practice_basics
* [new branch] hotfix -> origin/hotfix 1ad9eda..486a853 main -> origin/main
Already up to date.
[batman@ip-172-31-2-182 practice_basics]$ |
```

8) Merge the created branch with master in git local.

```
[batman@ip-172-31-2-182 practice_basics]$ git pull
remote: Enumerating objects: 1, done.
remote: Counting objects: 100\% (1/1), done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (1/1), 900 bytes | 900.00 KiB/s, done. From github.com:f-sid/practice_basics
   [new branch] hotfix -> origin/hotfix
1ad9eda..486a853 main -> origin/main
 * [new branch]
Already up to date.
[batman@ip-172-31-2-182 practice_basics]$ git checkout main
Switched to branch 'main
Your branch is behind 'origin/main' by 2 commits, and can be fast-forwarded.
(use "git pull" to update your local branch)
[batman@ip-172-31-2-182 practice_basics]$ git merge hotfix
merge: hotfix - not something we can merge
Did you mean this?
        origin/hotfix
[batman@ip-172-31-2-182 practice_basics]$ git merge origin/hotfix
Updating 1ad9eda..6693d11
Fast-forward
 sample.txt | 0
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 sample.txt
 [batman@ip-172-31-2-182 practice_basics]$
```

9) Merge the created branch with master in github by sending a pull request.

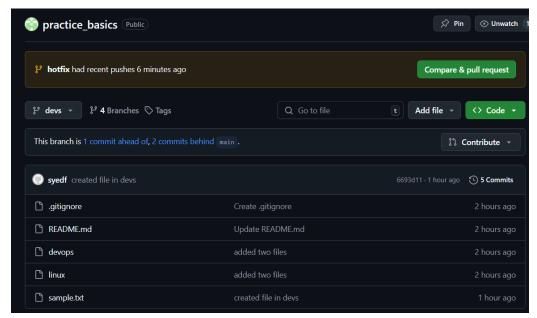


10) create a file in local and send that to branch in github.

```
[batman@ip-172-31-2-182 practice_basics]$ touch sample.file
[batman@ip-172-31-2-182 practice_basics]$ git status
On branch main
Your branch and 'origin/main' have diverged,
and have 1 and 2 different commits each, respectively.
   (use "git pull" to merge the remote branch into yours)

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

nothing added to commit but untracked files present (use "git add" to track)
[batman@ip-172-31-2-182 practice_basics]$ git add .
[batman@ip-172-31-2-182 practice_basics]$ git commit -m "sample.file created"
[main bcee1b2] sample.file created
1 file changed, 0 insertions(+), 0 deletions(-)
        create mode 100644 sample.file
[batman@ip-172-31-2-182 practice_basics]$ git push -u origin devs
branch 'devs' set up to track 'origin/devs'.
Everything up-to-date
```

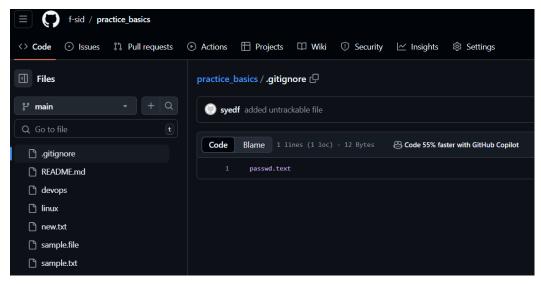


11) clone only a branch from github to local.

```
[batman@ip-172-31-2-182 practice_basics]$ git clone --branch devs --single-branch git@github.com:f-sid/practice_basics.git
Cloning into 'practice_basics'...
remote: Enumerating objects: 14, done.
remote: Counting objects: 100% (14/14), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 14 (delta 2), reused 5 (delta 1), pack-reused 0 (from 0)
Receiving objects: 100% (14/14), done.
Resolving deltas: 100% (2/2), done.
[batman@ip-172-31-2-182 practice_basics]$ ls
README.md devops linux new.txt practice_basics
[batman@ip-172-31-2-182 practice_basics]$ cd practice_basics/
[batman@ip-172-31-2-182 practice_basics]$ ls
README.md devops linux sample.txt
[batman@ip-172-31-2-182 practice_basics]$ |
```

12) create a file with all passwords and make that untrackable with git.

[batman@ip-172-31-2-182 practice_basics]\$ git push -u origin main
Enumerating objects: 11, done.
Counting objects: 100% (10/10), done.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (7/7), 742 bytes | 742.00 KiB/s, done.
Total 7 (delta 3), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (3/3), completed with 1 local object.
To github.com:f-sid/practice_basics.git
 486a853..052fdb4 main -> main
branch 'main' set up to track 'origin/main'.
[batman@ip-172-31-2-182 practice_basics]\$ |



13) make a commit and make that commit reset without savings changes.

```
[batman@ip-172-31-2-182 practice_basics]$ touch hello
[batman@ip-172-31-2-182 practice_basics]$ git add hello
[batman@ip-172-31-2-182 practice_basics]$ git commit -m "resetting a commit"
[main c926481] resetting a commit
1 file changed, 0 insertions(+), 0 deletions(-) create mode 100644 hello
[batman@ip-172-31-2-182 practice_basics]$ git log -3
                       4a1c9f300e89217a19021ccb8206f (HEAD -> main)
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 13:14:12 2024 +0000
     resetting a commit
commit 052fdb42e2e1cbe79e3a686e0453656975ae3436 (origin/main, origin/HEAD)
Merge: a3a24ed 486a853
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 13:06:57 2024 +0000
     Merge branch 'main' of github.com:f-sid/practice_basics
commit a3a24ed70706cbfb01d6ca03ed359b180fcb9d48
Author: syedf <syedfs9@outlook.com>
         Wed Nov 6 12:59:04 2024 +0000
Date:
      added untrackable file
```

```
[batman@ip-172-31-2-182 practice_basics]$ git reset 052fdb42
[batman@ip-172-31-2-182 practice_basics]$ git status
On branch main
Your branch is up to date with 'origin/main'.

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

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

14) Revert a committed commit to the older version.

```
[batman@ip-172-31-2-182 practice_basics]$ git revert a3a24ed707
[main a5e91a2] Revert "added untrackable file"
1 file changed, 1 insertion(+), 1 deletion(-)
[batman@ip-172-31-2-182 practice_basics]$ git log -3
commit a5e91a2a7c7a4573d0bf151955aaae2044647562 (HEAD -> main)
Author: syedf <syedfs9@outlook.com>
Date:
        Wed Nov 6 13:19:36 2024 +0000
    Revert "added untrackable file"
    This reverts commit a3a24ed70706cbfb01d6ca03ed359b180fcb9d48.
commit 0202bb0a48570101543a37adfefc04c3fd9ac644
Author: syedf <syedfs9@outlook.com>
        Wed Nov 6 13:19:32 2024 +0000
Date:
    resetting a commit
commit 052fdb42e2e1cbe79e3a686e0453656975ae3436 (origin/main, origin/HEAD)
Merge: a3a24ed 486a853
Author: syedf <syedfs9@outlook.com>
        Wed Nov 6 13:06:57 2024 +0000
Date:
    Merge branch 'main' of github.com:f-sid/practice basics
```

15) push a file to stash without savings the changes and work on another file.

```
[batman@ip-172-31-2-182 practice_basics]$ vi stash.txt
[batman@ip-172-31-2-182 practice_basics]$ git ststus
git: 'ststus' is not a git command. See 'git --help'.
The most similar command is
          status
[batman@ip-172-31-2-182 practice_basics]$ git status
On branch release
Your branch is ahead of 'origin/release' by 2 commits.
  (use "git push" to publish your local commits)
Untracked files:
  (use "git add <file>..." to include in what will be committed)
nothing added to commit but untracked files present (use "git add" to track)
[batman@ip-172-31-2-182 practice_basics]$ git add .
[batman@ip-172-31-2-182 practice_basics]$ git status
On branch release
Your branch is ahead of 'origin/release' by 2 commits.
(use "git push" to publish your local commits)
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
          new file: stash.txt
[batman@ip-172-31-2-182 practice_basics]$ git stash
Saved working directory and index state WIP on release: d4b5f33 Revert "added two fi
les'
[batman@ip-172-31-2-182 practice_basics]$ ls
README.md file1.text file2.text file3.text file4.text new.txt passwd.text
[batman@ip-172-31-2-182 practice_basics]$ vi new.txt
[batman@ip-172-31-2-182 practice_basics]$ git add .
[batman@ip-172-31-2-182 practice_basics]$ git commit -m "stash practise"
[release 57a8027] stash practise
1 file changed, 1 insertion(+)
```

16) undo the stash file and start working on that again.

```
[batman@ip-172-31-2-182 practice_basics]$ git stash list
stash@{0}: WIP on release: d4b5f33 Revert "added two files"
[batman@ip-172-31-2-182 practice_basics]$ git stash pop
On branch release
Your branch is ahead of 'origin/release' by 3 commits.
  (use "git push" to publish your local commits)

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file: stash.txt

Dropped refs/stash@{0} (14f4b958e73305ef3443b326531fd5cce876be5f)
[batman@ip-172-31-2-182 practice_basics]$ vi stash.txt
[batman@ip-172-31-2-182 practice_basics]$ cat stash.txt
new text
```

17) generate a ssh-keygen and configure into github.

```
[batman@ip-172-31-2-182 practice_basics]$ ssh-keygen -t rsa -C "syedfs97@outlook.com
Generating public/private rsa key pair.
Enter file in which to save the key (/home/batman/.ssh/id_rsa):
/home/batman/.ssh/id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
our identification has been saved in /home/batman/.ssh/id_rsa/
our public key has been saved in /home/batman/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:pc6vv3mSS+eV2LsocPYBbwXUWt1uzeBB102XH5N4bUM syedfs97@outlook.com
The key's randomart image is:
   -[RSA 3072]-
             ..o+E@|
              ..=00
        0. 0 +0 .
         0+.+0.+
           0++00 .
          .0**0 0.
   --[SHA256]-
[batman@ip-172-31-2-182 practice_basics]$ cat /home/batman/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQDbfx5Y86xoQfFP6ZDUw0ns6iSjqKcg2tfTFLQX7r53s/3q
RdZPdXgtRYZRQ3uvaTHLIT/oyqB57tB2DkVipX57tnaDEtHR9nN14F3TZdhgmIEdp8UteqwoO3FvpydqamW\
T1one96A7wmi8FEidYuH2iqr9Yt4vaR1nR1e8xX0EjATZary2rxT9NrGQJd2SsrrkNwtp3B27IB4K+gLiQkN
m6tEEe5e0oQhAqE18aIQgnKVMxoM6d+vL/RjbKcm8qUbX46TEB1cf1IAV3VeMHKM5aZOdPl+YhUTuUFjHRFr
i9O2cXIG1Gb5FgdXle4mrMiU8c4+uwoHHymfGJDXvhtSOriyKCgfpy/OB3fmU/f0SoLF8cFgx2ogMaXD8qF3
ixrS8laqvvbMnPo8gfhtI8g5TH/y2NZlq2RfxJb489o1qOOKWw43J92r5immiy6l4kgZeeInkPWyp+gGZpNk
rmfXS/5c52n9K8Gk5RYT0Y5vVbQfyrQJQT0P3uxSIBZ8gbk= syedfs97@outlook.com
[batman@ip-172-31-2-182 practice_basics]$|
```



19) basic understanding of .git file.

```
[batman@ip-172-31-2-182 .git]$ ls -ltr
total 68
drwxrwxr-x.
            2 batman batman
                                21 Nov
                                        6 10:44 info
drwxrwxr-x.
            2 batman batman 16384 Nov
                                        6 10:44 hooks
                                73 Nov
-rw-rw-r--.
            1 batman batman
                                        6 10:44 description
                                6 Nov
                                        6 10:44 branches
            2 batman batman
drwxrwxr-x.
                                        6 10:44 packed-refs
-rw-rw-r--.
            1 batman batman
                               112 Nov
drwxrwxr-x.
            3 batman batman
                                        6 10:44 logs
                                30 Nov
            1 batman batman
                               412 Nov
                                        6 13:06 FETCH_HEAD
rw-rw-r--.
                                        6 13:07 config
            1 batman batman
                               383 Nov
rw-rw-r--.
                                        6 13:28 HEAD
                                24 Nov
            1 batman batman
rw-rw-r--.
                                        6 13:42 ORIG_HEAD
                                41 Nov
            1 batman batman
            1 batman batman
                                15 Nov
                                        6 13:44 COMMIT_EDITMSG
rw-rw-r--.
            5 batman batman
                                        6 13:45 refs
drwxrwxr-x.
                                46 Nov
                                        6 13:45 objects
drwxrwxr-x. 38 batman batman 16384 Nov
                                        6 13:45 index
rw-rw-r--. 1 batman batman
                               761 Nov
rw-rw-r--.
                                41 Nov
                                        6
                                          13:45 AUTO_MERGE
            1 batman batman
```

20) Check all the logs of git.

```
commit 57a80270d82e726b5389ea5b50899264f13d25b6 (HEAD -> release)
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 13:44:38 2024 +0000
       stash practise
commit d4b5f3364d7860fdb5227fedbd7f6211b63e10dd
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 13:40:03 2024 +0000
       Revert "added two files"
       This reverts commit lad9edafld67f804e00afe6b08f0ea465b4ca6e0.
commit b12592772cd09a92cfd26bac7217306eaefb2360
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 13:29:13 2024 +0000
       -amended this
commit 32186734efa43a7320b66529ec83c2a5050518a8 (origin/release)
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 11:47:34 2024 +0000
       new file added in release
commit lad9edaf1d67f804e00afe6b08f0ea465b4ca6e0
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 10:46:36 2024 +0000
       added two files
commit 9b51827fbe677774ada9cc295b222f34d0545f44
Author: Farsaan Siddiqui <syedfs97@outlook.com>
Date: Wed Nov 6 16:10:44 2024 +0530
       Create .gitignore
commit 2d004f7087818b314f157076d3eb53fb3d231f9e
Author: Farsaan Siddiqui <syedfs97@outlook.com>
Date: Wed Nov 6 16:09:42 2024 +0530
       Update README.md
commit 4726e7fdlcfa569b41355614fea247ba494ad7b9
Author: Farsaan Siddiqui <syedfs97@outlook.com>
Date: Wed Nov 6 16:04:03 2024 +0530
       Initial commit
(END)
```

21)Rename the commit message

```
[batman@ip-172-31-2-182 practice_basics]$ git commit --amend
[release b125927] -amended this
Date: Wed Nov 6 13:29:13 2024 +0000
5 files changed, 6 insertions(+)
create mode 100644 file1.text
create mode 100644 file2.text
create mode 100644 file3.text
create mode 100644 file4.text
create mode 100644 passwd.text
[batman@ip-172-31-2-182 practice_basics]$ git log -3
commit b12592772cd09a92cfd26bac7217306eaefb2360 (HEAD -> release)
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 13:29:13 2024 +0000

-amended this

commit 32186734efa43a7320b66529ec83c2a5050518a8 (origin/release)
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 11:47:34 2024 +0000

new file added in release

commit lad9edaf1d67f804e00afe6b08f0ea465b4ca6e0
Author: syedf <syedfs9@outlook.com>
Date: Wed Nov 6 10:46:36 2024 +0000

added two files
```

22) Merge multiple commits into single commit.

```
[batman@ip-172-31-2-182 practice_basics]$ git rebase
error: cannot rebase: Your index contains uncommitted changes.
error: Please commit or stash them.
[batman@ip-172-31-2-182 practice_basics]$ git stash
Saved working directory and index state WIP on release: 57a8027 stash practise
[batman@ip-172-31-2-182 practice_basics]$ git rebase
Current branch release is up to date.
[batman@ip-172-31-2-182 practice_basics]$ git rebase -i head3
fatal: invalid upstream 'head3'
[batman@ip-172-31-2-182 practice_basics]$ git rebase -i HEAD-3
fatal: invalid upstream 'head3'
[batman@ip-172-31-2-182 practice_basics]$ git rebase -i HEAD-3
fatal: invalid upstream 'head6'
[batman@ip-172-31-2-182 practice_basics]$ git rebase -i HEAD-4
[detached HEAD 4ae7eb0] new file added in release
Date: Wed Nov 6 11:47:34 2024 +0000
6 files changed, 7 insertions(+)
create mode 100644 file1.text
rename devops => file2.text (100%)
rename linux => file3.text (100%)
rename linux => file3.text (100%)
rerate mode 100644 passwd.text
Successfully rebased and updated refs/heads/release.
[batman@ip-172-31-2-182 practice_basics]$ git log -3
commit 4ae7eb0e0acdf51621821bad749313653a28e496 (HEAD -> release)
Author: syedf <syedf59@outlook.com>
Date: Wed Nov 6 11:47:34 2024 +0000

new file added in release

-amended this

Revert "added two files"

This reverts commit lad9edaf1d67f804e00afe6b08f0ea465b4ca6e0
Author: syedf <syedf59@outlook.com>
Date: Wed Nov 6 10:46:36 2024 +0000

added two files

commit 1ad9edaf1d67f804e00afe6b08f0ea465b4ca6e0
Author: Farsaan Siddiqui <syedfs97@outlook.com>
Date: Wed Nov 6 10:46:36 2024 +0000

added two files

commit 9b51827fbe677774ada9cc295b222f34d0545f44
Author: Farsaan Siddiqui <syedfs97@outlook.com>
Date: Wed Nov 6 16:10:44 2024 +0530

Create .gitignore
[batman@ip-172-31-2-182 practice_basics]$ |
```