

```
hariniubuntu@victus:~$ git config --global user.name "Harini"
hariniubuntu@victus:~$ git config --global user.email "harinimuruges04@email.com"
hariniubuntu@victus:~$ git config --list
user.name=Harini
user.email=harinimuruges04@email.com
core.repositoryformatversion=0
core.filemode=true
core.bare=false
core.logallrefupdates=true
user.name=HARINI
user.email=harinimuruges04@gmail.com
hariniubuntu@victus:~$ mkdir task-2-git
hariniubuntu@victus:~$ cd task-2-git/
hariniubuntu@victus:~/task-2-git$ git init
hint: Using 'master' as the name for the initial branch. This default branch 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:
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 command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /home/hariniubuntu/task-2-git/.git/
hariniubuntu@victus:~/task-2-git$ ls -a
.  ..  .git
hariniubuntu@victus:~/task-2-git$ touch file1.txt
```

```
hariniubuntu@victus:~$ git status
On branch master
No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   file1.txt

hariniubuntu@victus:~/task-2-git$ git commit -m "Initial commit of file1"
[master (root-commit) 8dd67e1] Initial commit of file1
  1 file changed, 1 insertion(+)
  create mode 100644 file1.txt
hariniubuntu@victus:~/task-2-git$ git status
On branch master
nothing to commit, working tree clean
hariniubuntu@victus:~/task-2-git$ git branch -M main
hariniubuntu@victus:~/task-2-git$ git remote add origin https://github.com/Harini0712/Elevate-Task-2.
hariniubuntu@victus:~/task-2-git$ git status
On branch main
nothing to commit, working tree clean
hariniubuntu@victus:~/task-2-git$ git remote -v
origin  https://github.com/Harini0712/Elevate-Task-2.git (fetch)
origin  https://github.com/Harini0712/Elevate-Task-2.git (push)
hariniubuntu@victus:~/task-2-git$ git push -u origin main
Username for 'https://github.com': Harini0712
Password for 'https://Harini0712@github.com':
remote: Invalid username or token. Password authentication is not supported for Git operations.
```

```
hariniubuntu@victus:~/task-2-git$ git push -u origin main
Username for 'https://github.com': Harini0712
Password for 'https://Harini0712@github.com':
remote: Invalid username or token. Password authentication is not supported for Git operations.
fatal: Authentication failed for 'https://github.com/Harini0712/Elevate-Task-2.git'
hariniubuntu@victus:~/task-2-git$ git push -u origin main
Username for 'https://github.com': Harini0712
Password for 'https://Harini0712@github.com':
To https://github.com/Harini0712/Elevate-Task-2.git
 ! [rejected]      main -> main (fetch first)
error: failed to push some refs to 'https://github.com/Harini0712/Elevate-Task-2.git'
hint: Updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
hariniubuntu@victus:~/task-2-git$ git pull origin main --allow-unrelated-histories
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 870 bytes | 290.00 KiB/s, done.
From https://github.com/Harini0712/Elevate-Task-2
 * branch            main      -> FETCH_HEAD
 * [new branch]      main      -> origin/main
hint: You have divergent branches and need to specify how to reconcile them.
hint: You can do so by running one of the following commands sometime before
hint: your next pull:
hint:
```

```
hariniubuntu@victus:~/task-2-git$ git pull origin main --no-rebase --allow-unrelated-histories
From https://github.com/Harini0712/Elevate-Task-2
 * branch            main      -> FETCH_HEAD
Merge made by the 'ort' strategy.
 README.md | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 README.md
hariniubuntu@victus:~/task-2-git$ git status
On branch main
nothing to commit, working tree clean
hariniubuntu@victus:~/task-2-git$ git push -u origin main
Username for 'https://github.com': Harini0712
Password for 'https://Harini0712@github.com':
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 544 bytes | 544.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Harini0712/Elevate-Task-2.git
 62f54ab..beaec1d main -> main
branch 'main' set up to track 'origin/main'.
hariniubuntu@victus:~/task-2-git$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
hariniubuntu@victus:~/task-2-git$
```

```
hariniubuntu@victus:~/task-2-git$ git checkout -b feature-branch
Switched to a new branch 'feature-branch'
hariniubuntu@victus:~/task-2-git$ git status
On branch feature-branch
nothing to commit, working tree clean
hariniubuntu@victus:~/task-2-git$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
hariniubuntu@victus:~/task-2-git$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
hariniubuntu@victus:~/task-2-git$ git checkout feature-branch
Switched to branch 'feature-branch'
hariniubuntu@victus:~/task-2-git$ git status
On branch feature-branch
nothing to commit, working tree clean
hariniubuntu@victus:~/task-2-git$
```

```
hariniubuntu@victus:~/task-2-git$ echo "This change is from feature branch" >> file1.txt
hariniubuntu@victus:~/task-2-git$ cat file1.txt
Git first command
This change is from feature branch
hariniubuntu@victus:~/task-2-git$ git add .
hariniubuntu@victus:~/task-2-git$ git commit -m "Added change from feature branch"
[feature-branch c3d1cb7] Added change from feature branch
 1 file changed, 1 insertion(+)
hariniubuntu@victus:~/task-2-git$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
hariniubuntu@victus:~/task-2-git$ cat file1.txt
Git first command
hariniubuntu@victus:~/task-2-git$ git merge feature-branch
Updating beaec1d..c3d1cb7
Fast-forward
 file1.txt | 1 +
 1 file changed, 1 insertion(+)
hariniubuntu@victus:~/task-2-git$ git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
 (use "git push" to publish your local commits)

nothing to commit, working tree clean
hariniubuntu@victus:~/task-2-git$ cat file1.txt
Git first command
This change is from feature branch
hariniubuntu@victus:~/task-2-git$
```

```
hariniubuntu@victus: ~      x  Ubuntu      + | v
else (seen.add(word) or word)
    for word in s1.split()
]

s2 = ' '.join(res)
print(s2)
hariniubuntu@victus:~/task-2-git$ git checkout main
Previous HEAD position was 1391b19 Initiated python string code
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
hariniubuntu@victus:~/task-2-git$ git reset --soft 1391b19
hariniubuntu@victus:~/task-2-git$ git status
On branch main
Your branch is behind 'origin/main' by 7 commits, and can be fast-forwarded.
(use "git pull" to update your local branch)

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file: README.md
    new file: file1.txt

hariniubuntu@victus:~/task-2-git$ git log --oneline
1391b19 (HEAD -> main) Initiated python string code
hariniubuntu@victus:~/task-2-git$ git reset --hard 1391b19
HEAD is now at 1391b19 Initiated python string code
hariniubuntu@victus:~/task-2-git$ git log --oneline
1391b19 (HEAD -> main) Initiated python string code
hariniubuntu@victus:~/task-2-git$ █

hariniubuntu@victus: ~      x  Ubuntu      + | v
remote: Total 8 (delta 0), reused 5 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (8/8), 2.13 KiB | 242.00 KiB/s, done.
From https://github.com/Harini0712/Elevate-Task-2
 * branch            main      -> FETCH_HEAD
   beaecd1..11d83b8  main      -> origin/main
Merge made by the 'ort' strategy.
 README.md          | 28 ++++++++++++++++++++++++++++++++
 replace_words.py  | 13 ++++++
 2 files changed, 40 insertions(+), 1 deletion(-)
 create mode 100644 replace_words.py
hariniubuntu@victus:~/task-2-git$ git status
On branch main
Your branch is ahead of 'origin/main' by 2 commits.
(use "git push" to publish your local commits)

nothing to commit, working tree clean
hariniubuntu@victus:~/task-2-git$ git push origin main
Username for 'https://github.com': Harini0712
Password for 'https://Harini0712@github.com':
Enumerating objects: 9, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 12 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 690 bytes | 690.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Harini0712/Elevate-Task-2.git
  11d83b8..49b8682  main -> main
hariniubuntu@victus:~/task-2-git$ █
```

```
hariniubuntu@victus: ~      x  Ubuntu      x  +  ~
This change is from feature branch
hariniubuntu@victus:~/task-2-git$ git push -u origin main
Username for 'https://github.com': Harini0712
Password for 'https://Harini0712@github.com':
To https://github.com/Harini0712/Elevate-Task-2.git
 ! [rejected]      main -> main (fetch first)
error: failed to push some refs to 'https://github.com/Harini0712/Elevate-Task-2.git'
hint: Updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
hariniubuntu@victus:~/task-2-git$ git pull origin main --no-rebase --allow-unrelated-histories
remote: Enumerating objects: 10, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 8 (delta 0), reused 5 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (8/8), 2.13 KiB | 242.00 KiB/s, done.
From https://github.com/Harini0712/Elevate-Task-2
 * branch            main      -> FETCH_HEAD
   beaecd..11d83b8  main      -> origin/main
Merge made by the 'ort' strategy.
 README.md          | 28 ++++++++++++++++++++++-
 replace_words.py  | 13 ++++++
 2 files changed, 40 insertions(+), 1 deletion(-)
 create mode 100644 replace_words.py
hariniubuntu@victus:~/task-2-git$ git status
On branch main
```

```
Version 2
Version 3
hariniubuntu@victus:~/rollback-demo$ vi file.txt
hariniubuntu@victus:~/rollback-demo$ git add .
hariniubuntu@victus:~/rollback-demo$ git commit -m "rewrite of v2"
[master 85e48ee] rewrite of v2
 1 file changed, 2 insertions(+)
hariniubuntu@victus:~/rollback-demo$ cat file.txt
Version 1
Version 2==rewritten
Version 3
hariniubuntu@victus:~/rollback-demo$ git log --oneline
85e48ee (HEAD -> master) rewrite of v2
3c9d0fc Version 1 commit
hariniubuntu@victus:~/rollback-demo$ cat file.txt
Version 1
Version 2==rewritten
Version 3
hariniubuntu@victus:~/rollback-demo$ git log --oneline
85e48ee (HEAD -> master) rewrite of v2
3c9d0fc Version 1 commit
hariniubuntu@victus:~/rollback-demo$ git reset --hard 3c9d0fc
HEAD is now at 3c9d0fc Version 1 commit
hariniubuntu@victus:~/rollback-demo$ git log --oneline
3c9d0fc (HEAD -> master) Version 1 commit
hariniubuntu@victus:~/rollback-demo$ cat file.txt
Version 1
hariniubuntu@victus:~/rollback-demo$
```

The image shows two instances of Microsoft Visual Studio Code (VS Code) running side-by-side. Both instances have the following setup:

- File Explorer (Left):** Shows an open folder named "replace_words.py".
- Code Editor (Top):** Displays the following Python code:

```
replace_words.py
1 s1 = 'Gfg is best . Gfg also has Classes now. Classes help understand better .'
2
3 rep = {'Gfg': 'It', 'Classes': 'They'}
4 seen = set()
5
6 res = [
7     rep[word] if word in rep and word in seen
8     else (seen.add(word)) or word
9     for word in s1.split()
10 ]
11
12 s2 = ' '.join(res)
```

- Terminal (Bottom):** Shows a command-line session with several errors and fatal exits due to merge conflicts.
- Output (Right):** Shows the "Source Control" view with a list of commits and branches.
- Status Bar:** Shows file paths, line counts (e.g., 1,52 All), and system status (e.g., 30°C Sunny).

The second instance of VS Code below it has a similar setup but lacks the terminal output.

The screenshot shows a VS Code interface with the following details:

- File Explorer:** Shows two files: `replace_words.py` (selected) and `replace_words.py`.
- Code Editor:** Displays the content of `replace_words.py`. The code uses a dictionary `rep` to map words like 'Gfg' to 'It' and 'Classes' to 'They'. It iterates through a string `s1`, replacing words found in `rep` if they have not been seen before. The resulting string is stored in `s2`.
- Terminal:** Shows the following command-line session:
 - PS C:\Users\HP\OneDrive\Documents\OneDrive\Documents\python> `git status`
 - On branch main
 - All conflicts fixed but you are still merging.
 - (use "git commit" to conclude merge)
 - Changes to be committed:
 - new file: README.md
 - new file: file1.txt
 - PS C:\Users\HP\OneDrive\Documents\OneDrive\Documents\python> `git push -u origin main`
 - To https://github.com/Harini0712/Elevate-Task-2.git
 - ! [rejected] main -> main (non-fast-forward)
 - error: failed to push some refs to 'https://github.com/Harini0712/Elevate-Task-2.git'
 - hint: Updates were rejected because the tip of your current branch is behind
 - hint: its remote counterpart. If you want to integrate the remote changes,
 - hint: use 'git pull' before pushing again.
 - hint: See the 'Note about fast-forwards' in 'git push --help' for details.
 - PS C:\Users\HP\OneDrive\Documents\OneDrive\Documents\python> `git pull origin main`
 - error: You have not concluded your merge (MERGE_HEAD exists).
 - hint: Please, commit your changes before merging.
 - fatal: Exiting because of unfinished merge.
 - PS C:\Users\HP\OneDrive\Documents\OneDrive\Documents\python> `git pull origin main --no-rebase --allow-unrelated-histories`
 - error: You have not concluded your merge (MERGE_HEAD exists).
 - hint: Please, commit your changes before merging.
- Bottom Bar:** Includes icons for Top Stories, Search, and various system status indicators.