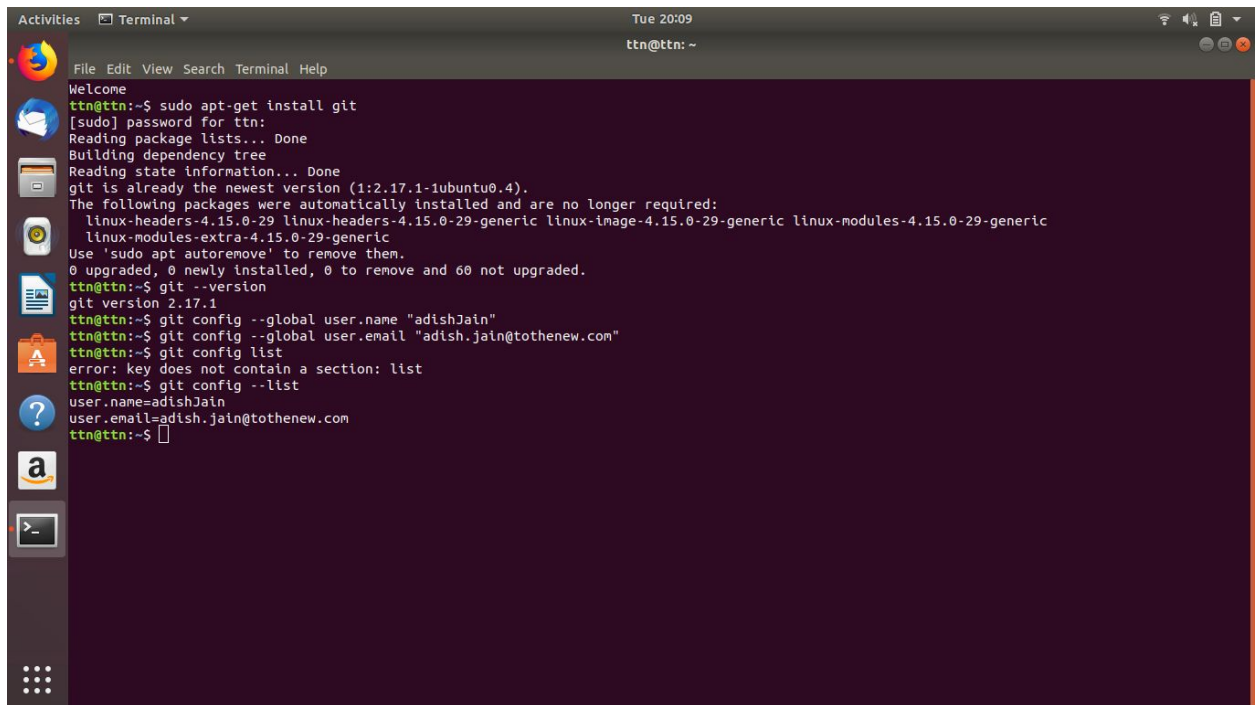


Intro To Version Control

Name : Adish Jain

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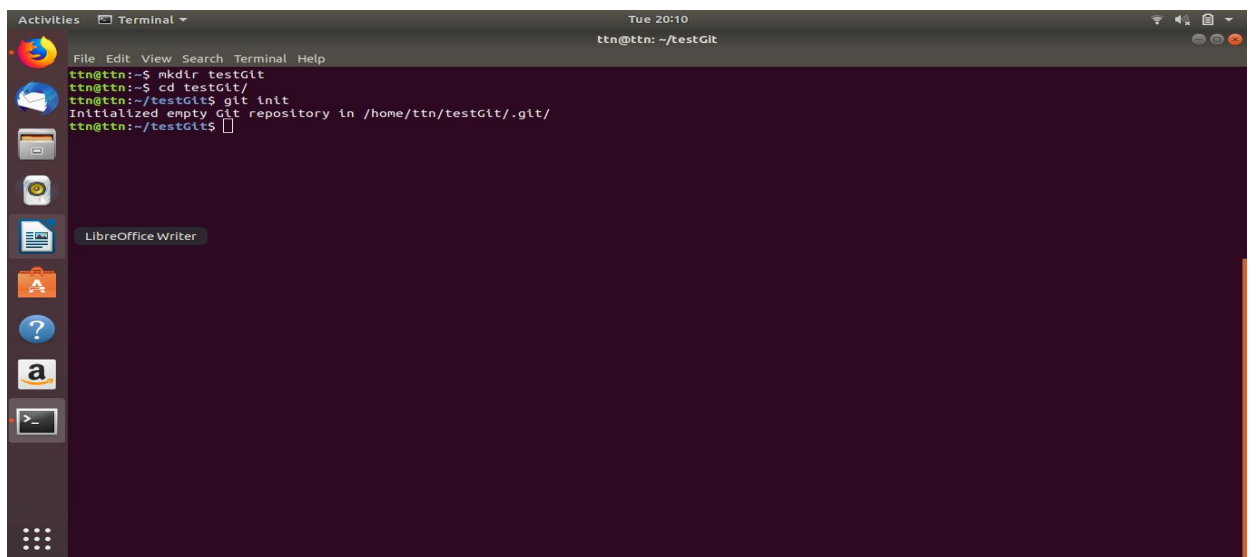
1. Git Setup



```
Activities  Terminal  Tue 20:09
ttn@ttn: ~

Welcome
ttn@ttn:~$ sudo apt-get install git
[sudo] password for ttn:
Reading package lists... Done
Building dependency tree
Reading state information... Done
git is already the newest version (1:2.17.1-1ubuntu0.4).
The following packages were automatically installed and are no longer required:
  linux-headers-4.15.0-29 linux-headers-4.15.0-29-generic linux-image-4.15.0-29-generic
  linux-modules-extra-4.15.0-29-generic
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 60 not upgraded.
ttn@ttn:~$ git --version
git version 2.17.1
ttn@ttn:~$ git config --global user.name "adishJain"
ttn@ttn:~$ git config --global user.email "adish.jain@tothenew.com"
ttn@ttn:~$ git config list
error: key does not contain a section: list
ttn@ttn:~$ git config --list
user.name=adishJain
user.email=adish.jain@tothenew.com
ttn@ttn:~$
```

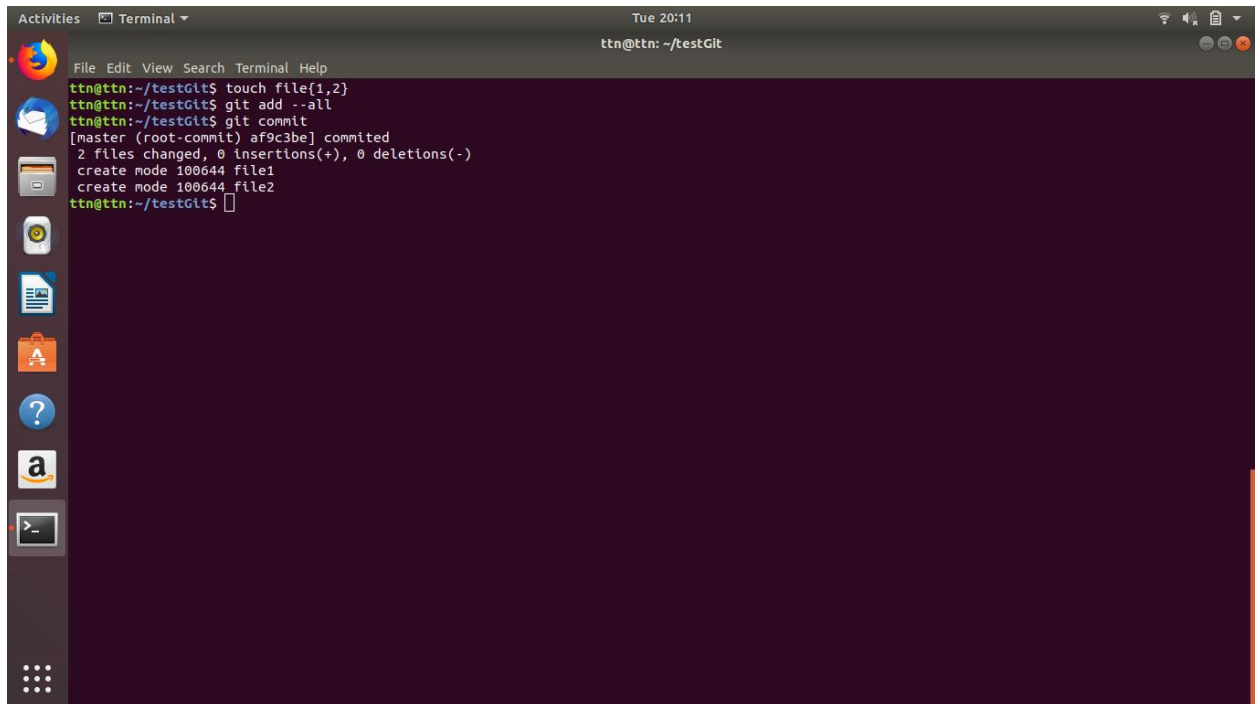
2. Initialize a Git Repository



```
Activities  Terminal  Tue 20:10
ttn@ttn: ~/testGit

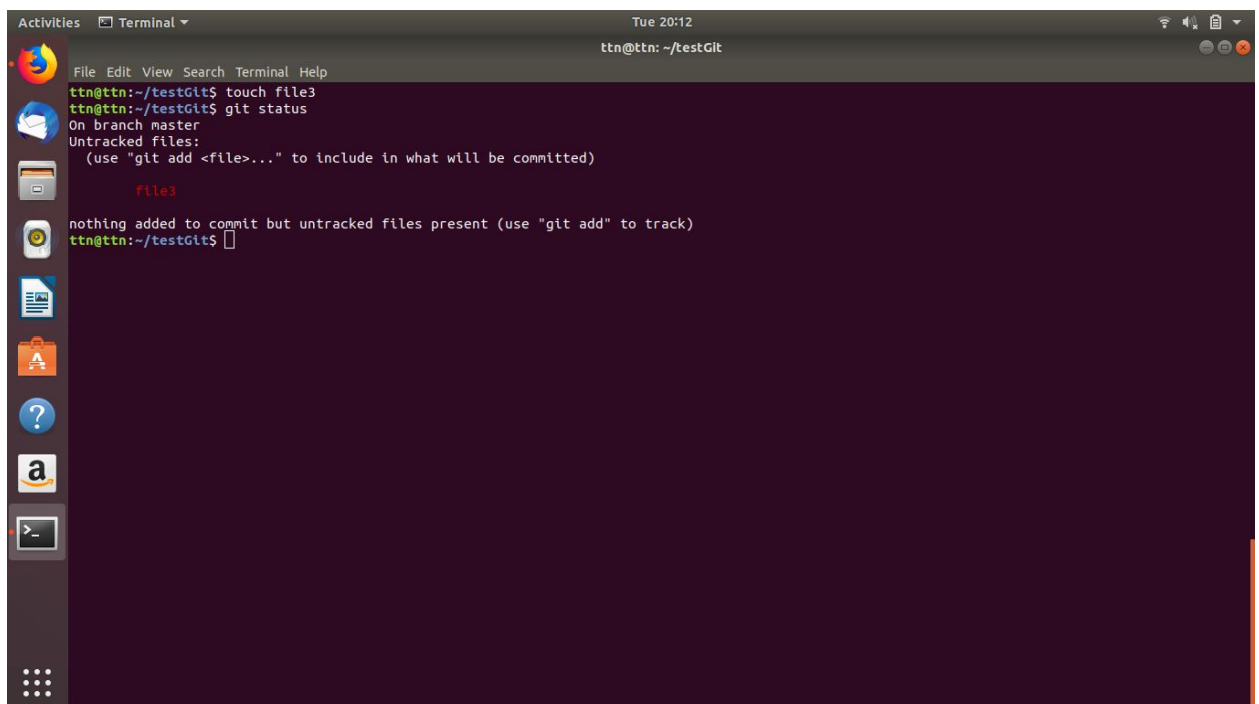
ttn@ttn:~$ mkdir testGit
ttn@ttn:~$ cd testGit/
ttn@ttn:~/testGit$ git init
Initialized empty Git repository in /home/ttn/testGit/.git/
ttn@ttn:~/testGit$
```

3. Add files to the repository

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Tue 20:11, ttn@ttn: ~/testGit). The terminal shows the following commands and output:

```
ttn@ttn:~/testGit$ touch file{1,2}
ttn@ttn:~/testGit$ git add --all
ttn@ttn:~/testGit$ git commit
[master (root-commit) af9c3be] committed
2 files changed, 0 insertions(+), 0 deletions(-)
create mode 100644 file1
create mode 100644 file2
ttn@ttn:~/testGit$
```

4. Unstage 1 file

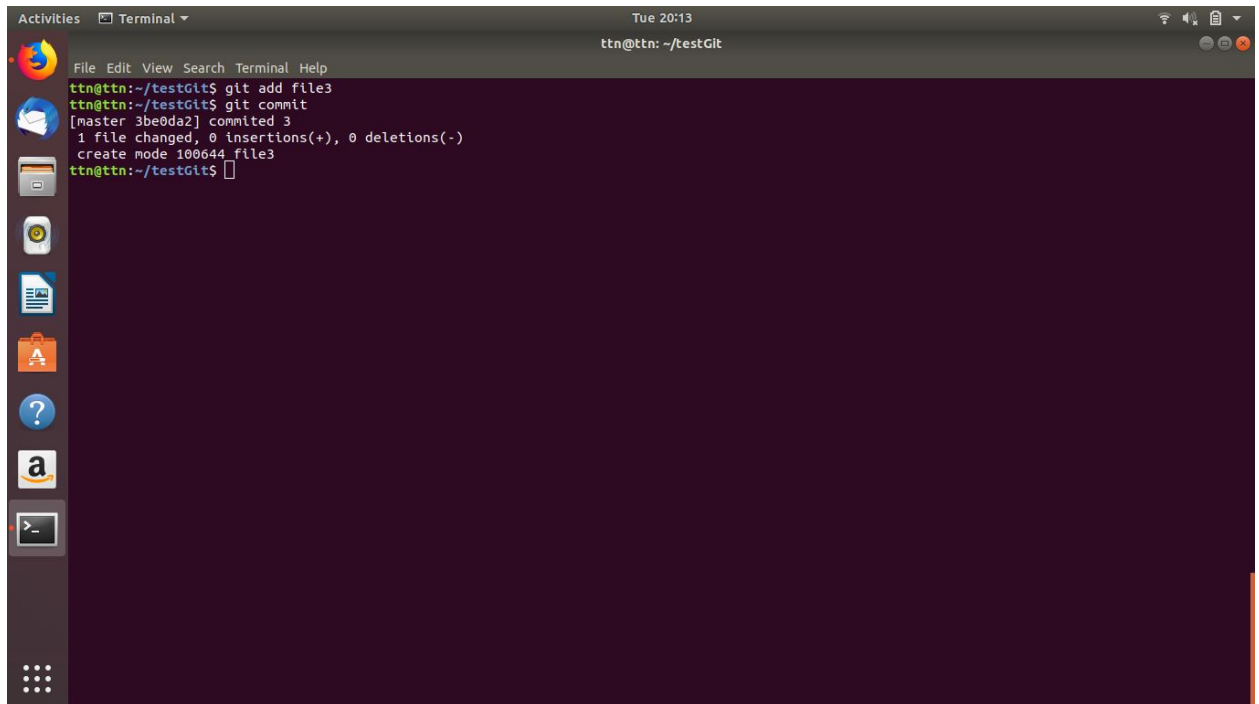
A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Tue 20:12, ttn@ttn: ~/testGit). The terminal shows the following commands and output:

```
ttn@ttn:~/testGit$ touch file3
ttn@ttn:~/testGit$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)

        file3

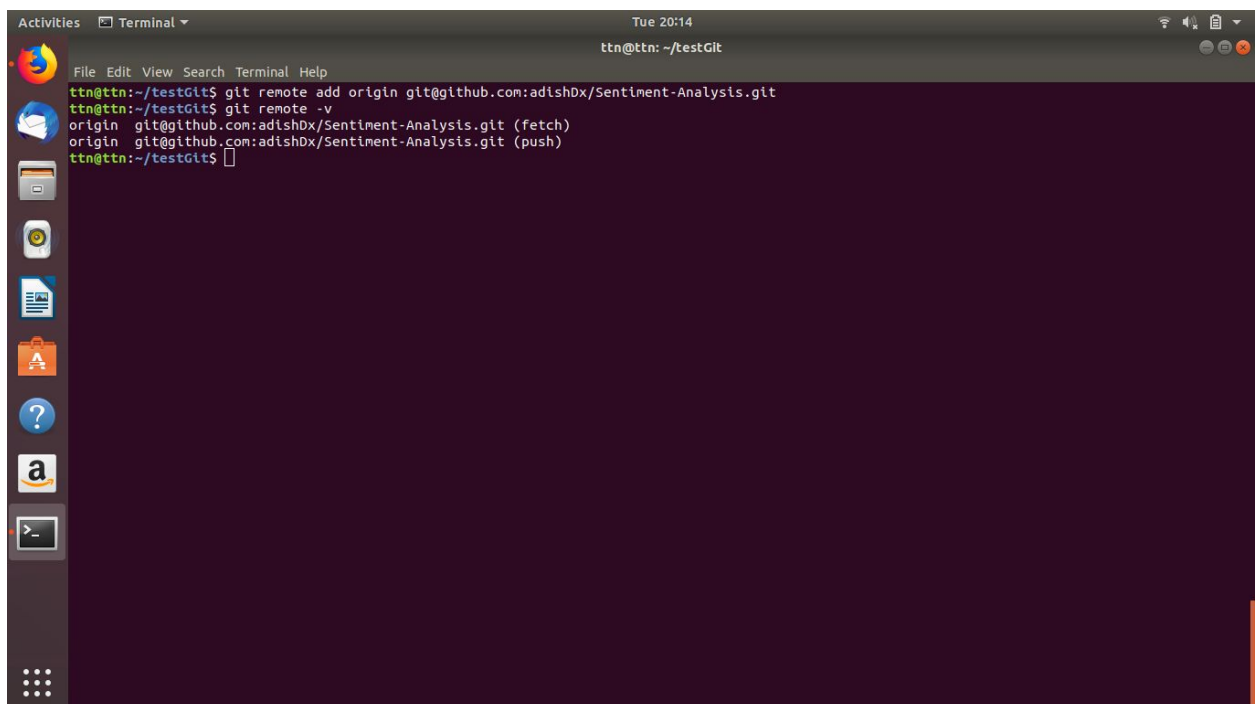
nothing added to commit but untracked files present (use "git add" to track)
ttn@ttn:~/testGit$
```

5. Commit the file

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Tue 20:13, ttn@ttn: ~/testGit). The terminal shows the following commands and output:

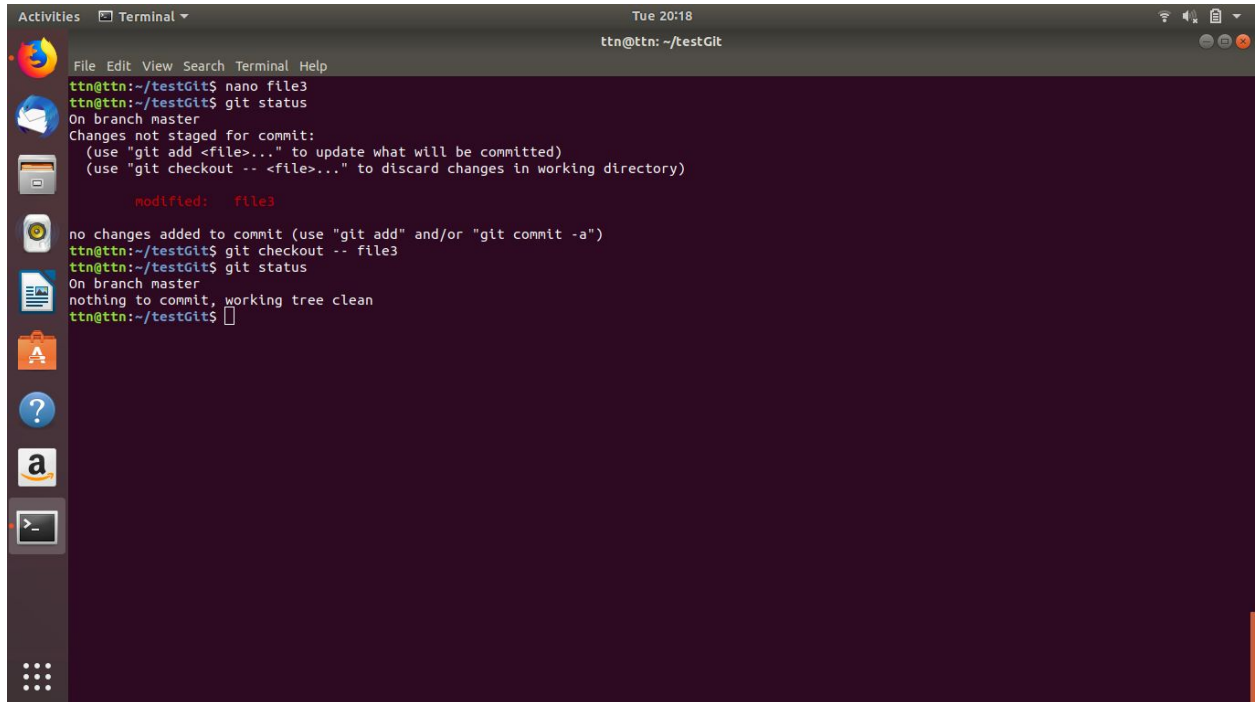
```
ttn@ttn:~/testGit$ git add file3
ttn@ttn:~/testGit$ git commit
[master 3be0da2] committed 3
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 file3
ttn@ttn:~/testGit$
```

6. Add a remote

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Tue 20:14, ttn@ttn: ~/testGit). The terminal shows the following commands and output:

```
ttn@ttn:~/testGit$ git remote add origin git@github.com:adishDx/Sentiment-Analysis.git
ttn@ttn:~/testGit$ git remote -v
origin  git@github.com:adishDx/Sentiment-Analysis.git (fetch)
origin  git@github.com:adishDx/Sentiment-Analysis.git (push)
ttn@ttn:~/testGit$
```

7. Undo changes to a particular file

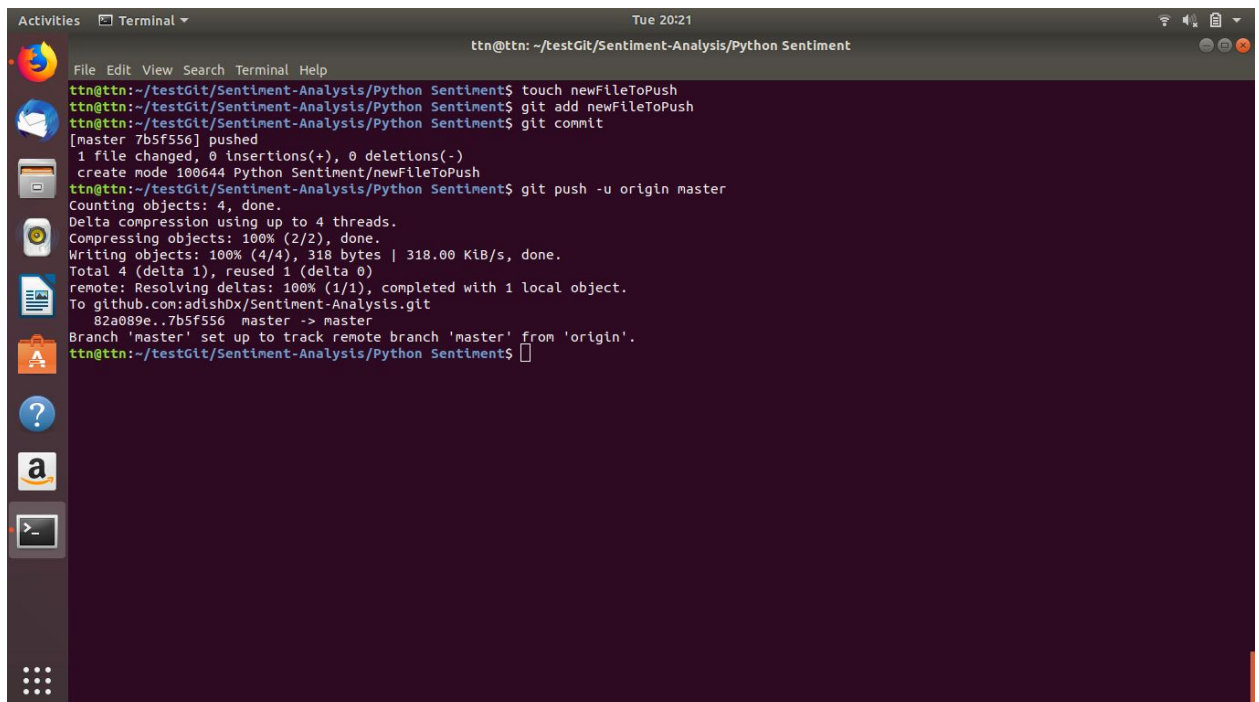


```
Activities Terminal Tue 20:18 ttn@ttn: ~/testGit
File Edit View Search Terminal Help
ttn@ttn:~/testGit$ nano file3
ttn@ttn:~/testGit$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   file3

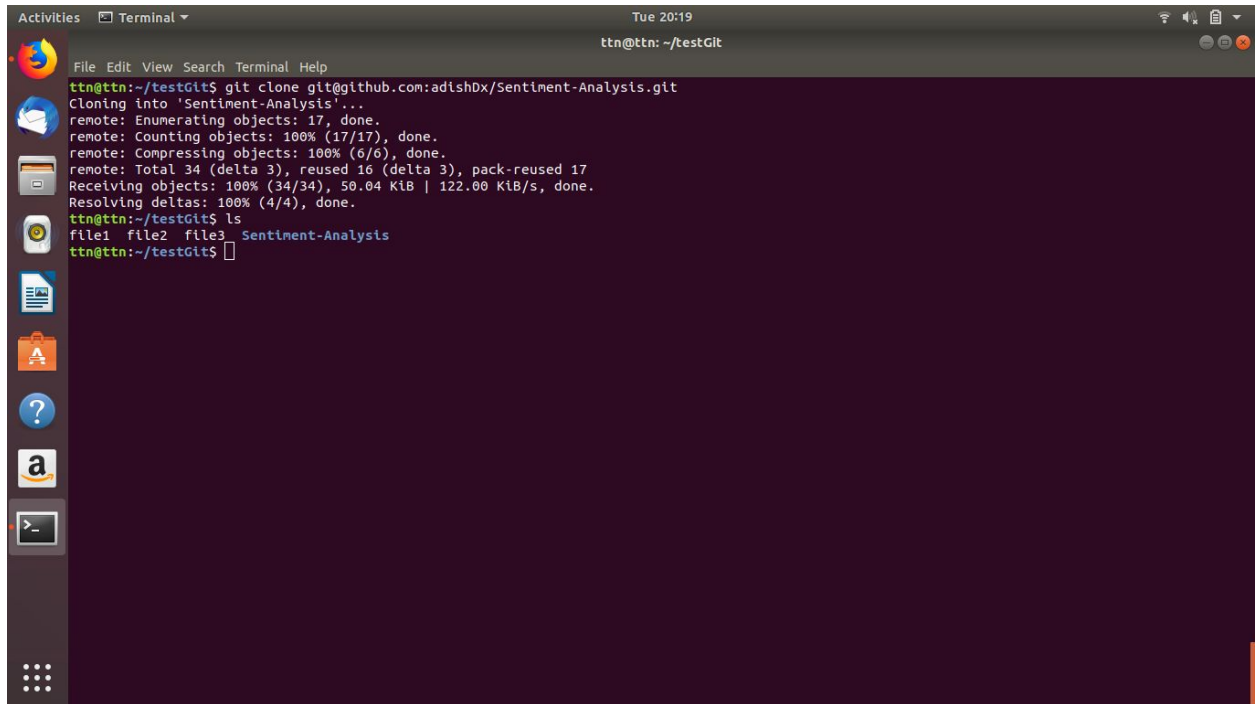
no changes added to commit (use "git add" and/or "git commit -a")
ttn@ttn:~/testGit$ git checkout -- file3
ttn@ttn:~/testGit$ git status
On branch master
nothing to commit, working tree clean
ttn@ttn:~/testGit$
```

8. Push changes to Github



```
Activities Terminal Tue 20:21 ttn@ttn: ~/testGit/Sentiment-Analysis/Python Sentiment
File Edit View Search Terminal Help
ttn@ttn:~/testGit/Sentiment-Analysis/Python Sentiment$ touch newFileToPush
ttn@ttn:~/testGit/Sentiment-Analysis/Python Sentiment$ git add newFileToPush
ttn@ttn:~/testGit/Sentiment-Analysis/Python Sentiment$ git commit
[master 7b5f556] pushed
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 Python Sentiment/newFileToPush
ttn@ttn:~/testGit/Sentiment-Analysis/Python Sentiment$ git push -u origin master
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 318 bytes | 318.00 KiB/s, done.
Total 4 (delta 1), reused 1 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:adishDx/Sentiment-Analysis.git
 82a089e..7b5f556 master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
ttn@ttn:~/testGit/Sentiment-Analysis/Python Sentiment$
```

9. Clone the repository

A screenshot of a Linux terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Tue 20:19, ttn@ttn: ~/testGit). The terminal shows the execution of the command `git clone git@github.com:adishDx/Sentiment-Analysis.git`. The output displays the cloning process, including enumerating and compressing objects, and receiving deltas. After the clone is complete, the user runs `ls`, showing the directory structure: `file1 file2 file3 Sentiment-Analysis`.

```
ttn@ttn:~/testGit$ git clone git@github.com:adishDx/Sentiment-Analysis.git
Cloning into 'Sentiment-Analysis'...
remote: Enumerating objects: 17, done.
remote: Counting objects: 100% (17/17), done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 34 (delta 3), reused 16 (delta 3), pack-reused 17
Receiving objects: 100% (34/34), 50.04 KiB | 122.00 KiB/s, done.
Resolving deltas: 100% (4/4), done.
ttn@ttn:~/testGit$ ls
file1 file2 file3 Sentiment-Analysis
ttn@ttn:~/testGit$
```

10. Add changes to one of the copies and pull the changes in the other.

```
ttn@ttn: ~/testGit/Sentiment-Analysis/Python Sentiment
ttn@ttn:~/testGit/Sentiment-Analysis/Python Sentiment$ nano File
ttn@ttn:~/testGit/Sentiment-Analysis/Python Sentiment$ git add --all
[master 297c7f9] added
1 file changed, 1 insertion(+)
create mode 100644 Python Sentiment/File
ttn@ttn:~/testGit/Sentiment-Analysis/Python Sentiment$ git push -u origin master
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 320 bytes | 320.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object
To github.com:adishDx/Sentiment-Analysis.git
7b5f556..297c7f9 master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'
ttn@ttn:~/testGit/Sentiment-Analysis/Python Sentiment$

ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ ls
3Routers.pkt      newTweet.py      testpd.csv
7Routers.pkt      result.csv       test.py
'Introduction to Spark Streaming.ipynb'  sentiment2.py    tweets.csv
live.py           sentiwordnet.py

ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git pull origin master
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (1/1), done.
remote: Total 4 (delta 1), reused 4 (delta 1), pack-reused 0
Unpacking objects: 100% (4/4), done.
From github.com:adishDx/Sentiment-Analysis
* branch master -> FETCH_HEAD
Updating 7b5f556..297c7f9
Fast-forward
 Python Sentiment/File | 1 +
1 file changed, 1 insertion(+)
create mode 100644 Python Sentiment/File
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ ls
3Routers.pkt      new.py           sentiwordnet.py
7Routers.pkt      newTweet.py     testpd.csv
File              result.csv      test.py
'Introduction to Spark Streaming.ipynb'  sentiment2.py    tweets.csv
live.py           sentiment.py

ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$
```

11. Check differences between a file and its staged version

```
ttn@ttn: ~/git-test/Sentiment-Analysis/Python Sentiment
Python Sentiment/File | 1 +
1 file changed, 1 insertion(+)
create mode 100644 Python Sentiment/File
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ ls
3Routers.pkt      new.py           sentiwordnet.py
7Routers.pkt      newTweet.py     testpd.csv
File              result.csv      test.py
'Introduction to Spark Streaming.ipynb'  sentiment2.py    tweets.csv
live.py           sentiment.py

ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ nano diffFile
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git add diffFile
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

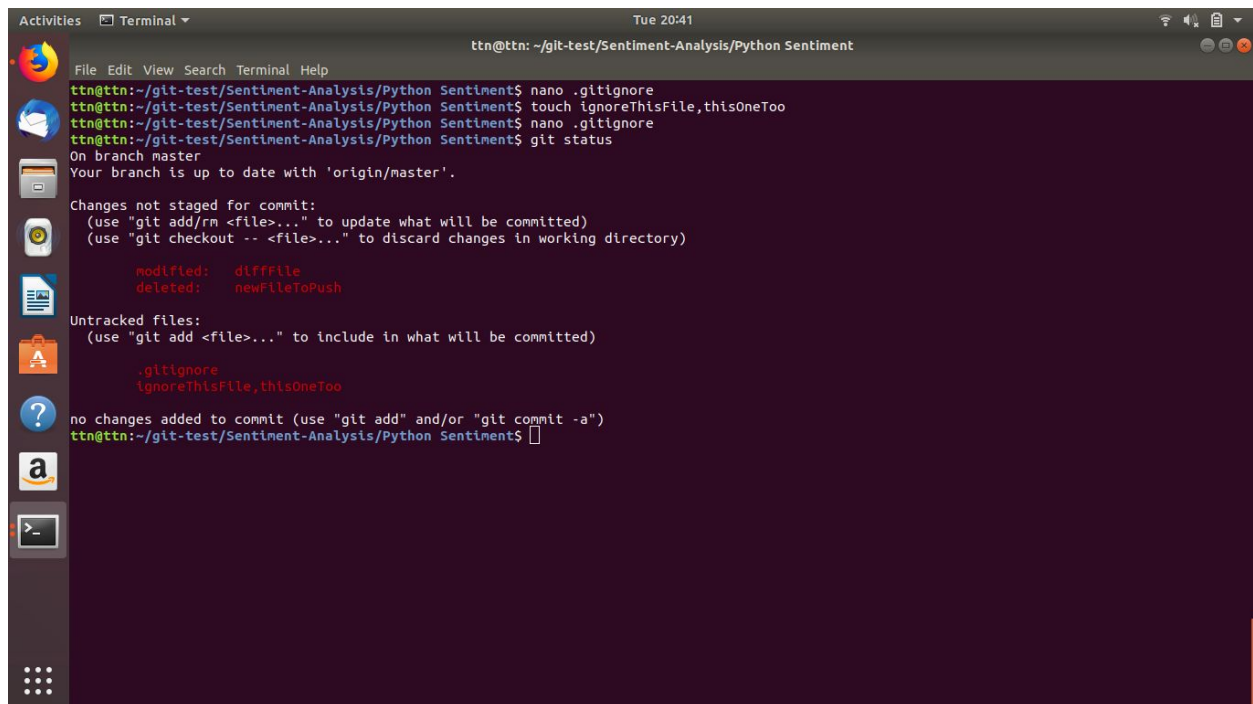
    new file:   diffFile

Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

    deleted:    newFileToPush

ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ nano diffFile
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git diff diffFile
diff --git a/Python Sentiment/diffFile b/Python Sentiment/diffFile
index 4e6d76e..b2b4c1c 100644
--- a/Python Sentiment/diffFile
+++ b/Python Sentiment/diffFile
@@ -1,3 @@
+Hey TTN!!
+
+HI there !!
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$
```

12. Ignore a few files to be checked in

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Tue 20:41). The terminal shows the following commands and output:

```
ttn@ttn: ~/git-test/Sentiment-Analysis/Python Sentiment$ nano .gitignore
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ touch ignoreThisFile,thisOneToo
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ nano .gitignore
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git status
```

The output of `git status` is:

```
On branch master
Your branch is up to date with 'origin/master'.

Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

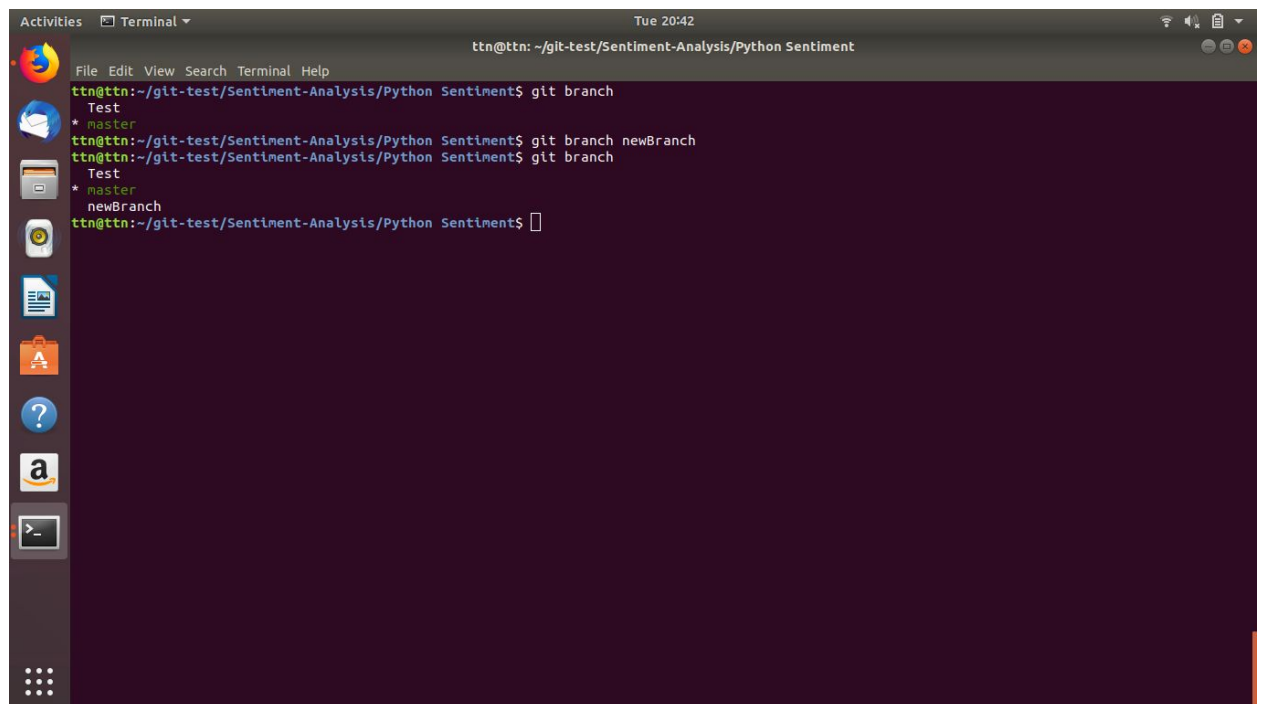
        modified:   dlFFFfLe
        deleted:    newFileToPush

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

        .gitignore
        ignoreThisFile,thisOneToo

no changes added to commit (use "git add" and/or "git commit -a")
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$
```

13. Create a new branch.

A terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Tue 20:42). The terminal shows the following commands and output:

```
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git branch
Test
* master
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git branch newBranch
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git branch
Test
* master
  newBranch
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$
```

14. Diverge them with commits

```
Activities Terminal Tue 23:26
ttn@ttn: ~/git-test/Sentiment-Analysis/Python Sentiment

File Edit View Search Terminal Help
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ cat File
Before Change
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ echo "After Change" >> File
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ cat File
Before Change
After Change
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git add --all
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git commit
[master 68d1478] Committed
1 file changed, 2 insertions(+), 2 deletions(-)
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ chbranch Test
Switched to branch 'Test'
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ cat File
cat: File: No such file or directory
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ ls
3Routers.pkt deleteIt.txt live.py newTweet.py sentiment2.py sentiwordnet.py testpd.csv tweets.csv
7routers.pkt 'Introduction to Spark Streaming.ipynb' new.py result.csv sentiment.py testBranch.txt test.py
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ chbranch master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 3 commits.
(use "git push" to publish your local commits)
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ ls
3Routers.pkt diffFile ignoreThisFile, thisOneToo live.py newTweet.py sentiment2.py sentiwordnet.py test.py
7routers.pkt File 'Introduction to Spark Streaming.ipynb' new.py result.csv sentiment.py testpd.csv tweets.csv
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$
```

15. Edit the same file at the same line on both branches and commit

```
Activities Terminal Tue 23:55
ttn@ttn: ~/Sentiment-Analysis/Python Sentiment
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ echo "something" > File
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ cat File
something
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ git add --all
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ git commit
[master 2e2fa86] asd
1 file changed, 1 insertion(+), 1 deletion(-)
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ git push -u origin master
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 314 bytes | 314.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:adishDx/Sentiment-Analysis.git
215b966..2e2fa86 master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$

ttn@ttn: ~/git-test/Sentiment-Analysis/Python Sentiment
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ cat File
Conflict generating Line
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git add --all
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git commit
On branch Test
nothing to commit, working tree clean
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git pull origin master
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (1/1), done.
remote: Total 4 (delta 1), reused 4 (delta 1), pack-reused 0
Unpacking objects: 100% (4/4), done.
From github.com:adishDx/Sentiment-Analysis
* branch master -> FETCH_HEAD
215b966..2e2fa86 master -> origin/master
Auto-merging Python Sentiment/File
CONFLICT (content): Merge conflict in Python Sentiment/File
Automatic merge failed; fix conflicts and then commit the result.
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$
```

16. Try merging and resolve merge conflicts


```
Activities Terminal Tue 23:55
ttn@ttn: ~/Sentiment-Analysis/Python Sentiment
File Edit View Search Terminal Help
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ echo "something" > File
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ cat File
something
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ git add --all
[master 2e2fa86] asd
1 file changed, 1 insertion(+), 1 deletion(-)
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ git push -u origin mast
er
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 314 bytes | 314.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:adishDx/Sentiment-Analysis.git
215b966..2e2fa86 master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$

ttn@ttn: ~/git-test/Sentiment-Analysis/Python Sentiment
File Edit View Search Terminal Help
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ cat File
Conflict generating Line
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git add --all
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git commit
On branch Test
nothing to commit, working tree clean
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git pull origin
master
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (1/1), done.
remote: Total 4 (delta 1), reused 4 (delta 1), pack-reused 0
Unpacking objects: 100% (4/4), done.
From github.com:adishDx/Sentiment-Analysis
* branch master -> FETCH_HEAD
215b966..2e2fa86 master -> origin/master
Auto-merging Python Sentiment/File
CONFLICT (content): Merge conflict in Python Sentiment/File
Automatic merge failed: fix conflicts and then commit the result.
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$
```

```
Activities Terminal Wed 00:04
ttn@ttn: ~/Sentiment-Analysis/Python Sentiment
File Edit View Search Terminal Help
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ echo "something" > File
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ cat File
something
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ git add --all
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ git commit
[master 2e2fa86] asd
1 file changed, 1 insertion(+), 1 deletion(-)
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$ git push -u origin mast
er
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 314 bytes | 314.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:adishDx/Sentiment-Analysis.git
215b966..2e2fa86 master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
ttn@ttn:~/Sentiment-Analysis/Python Sentiment$

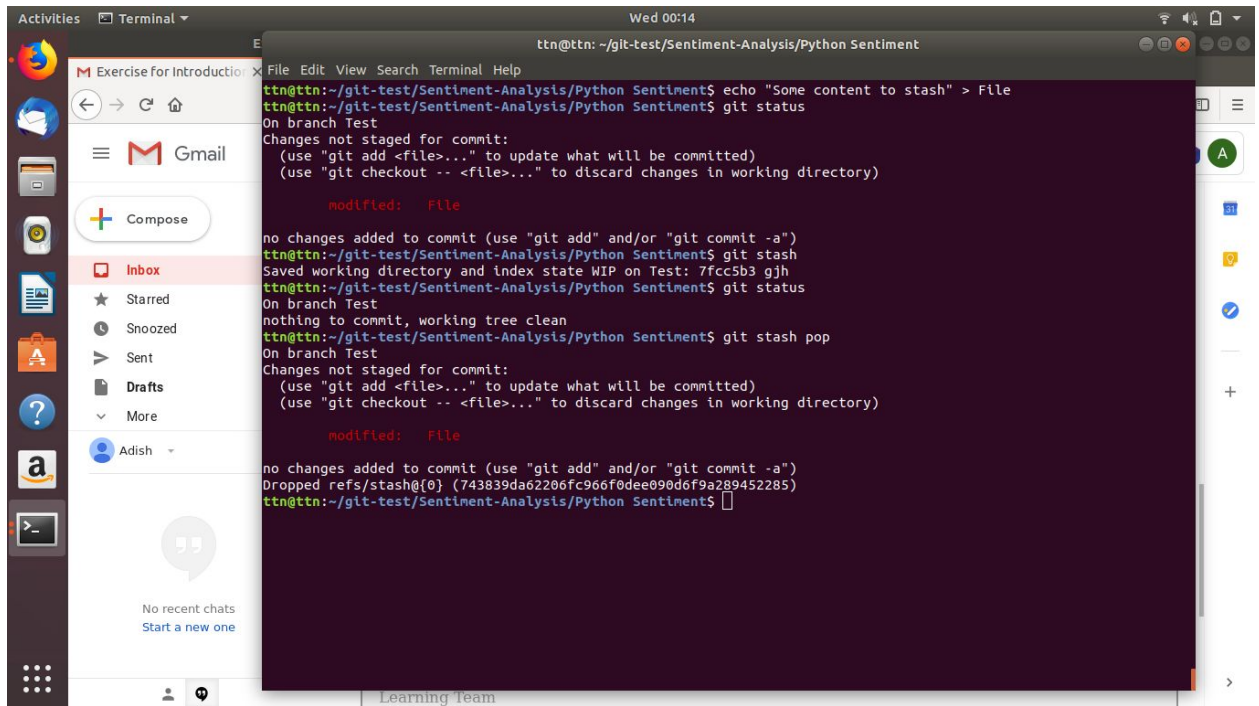
ttn@ttn: ~/git-test/Sentiment-Analysis/Python Sentiment
File Edit View Search Terminal Help
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git status
On branch Test
You have unmerged paths.
  (fix conflicts and run "git commit")
  (use "git merge --abort" to abort the merge)

Unmerged paths:
  (use "git add <file>..." to mark resolution)

        both modified:   File

no changes added to commit (use "git add" and/or "git commit -a")
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ cat File
<<<<<< HEAD
Conflict generating Line
=====
something
>>>>>> 2e2fa86abbf007620fcd01f3a3a0bfcf1082a008
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ nano File
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git add --all
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git commit
[Test 0aa19f7] sadMerge branch 'master' of github.com:adishDx/Sentiment
-Analysis into Test
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$ git pull origin
master
From github.com:adishDx/Sentiment-Analysis
* branch master -> FETCH_HEAD
Already up to date.
ttn@ttn:~/git-test/Sentiment-Analysis/Python Sentiment$
```

17. Stash the changes and pop them



18. Add the following code to your .bashrc file : `color_prompt="yes"`

```

parse_git_branch() {
git branch 2> /dev/null | sed -e '/^[^*]/d' -e 's/* \(.*\)/(\1)/'
}
if [ "$color_prompt" = yes ]; then
PS1='\u@\h\[\033[00m\]:\[\033[01;34m\]\W\[\033[01;31m\]
$(parse_git_branch)\[\033[00m\]\$ '
else
PS1='\u@\h:\W $(parse_git_branch)\$ '
fi
unset color_prompt force_color_prompt

```

