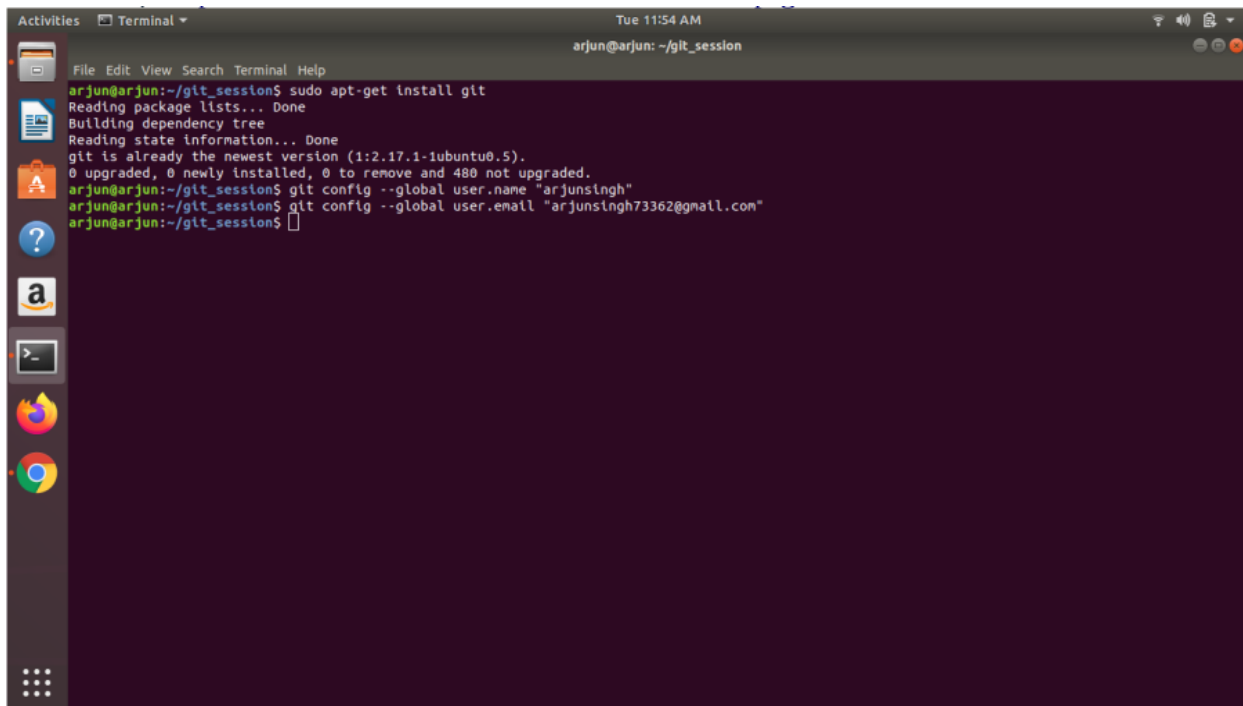


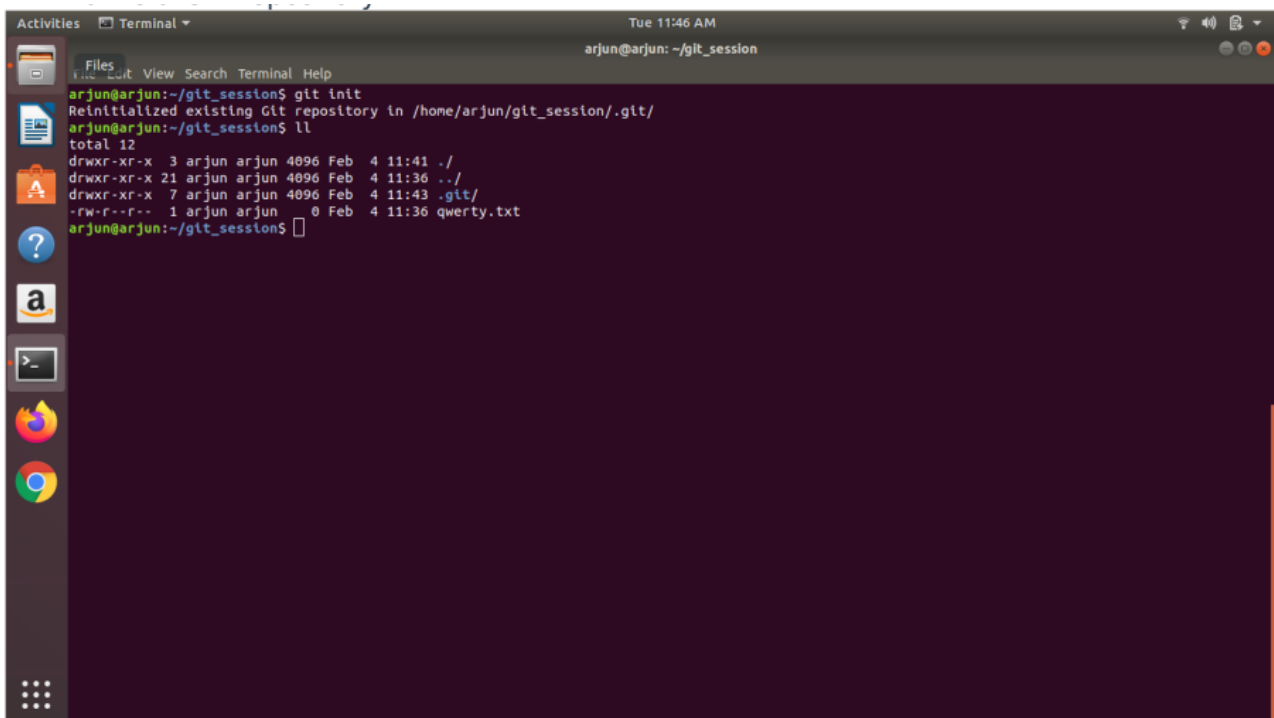
1. Git Setup <https://confluence.atlassian.com/bitbucket/set-up-git-744723531.html>



A terminal window titled 'arjun@arjun: ~/git_session' showing the installation and configuration of Git. The user runs 'sudo apt-get install git', which shows the package lists, dependency tree, and state information. It confirms that Git is already the newest version (1:2.17.1-1ubuntu0.5) and that no packages need to be upgraded. Then, the user runs 'git config --global user.name "arjunsingh"' and 'git config --global user.email "arjunsingh73362@gmail.com"', both of which are executed successfully.

```
arjun@arjun:~/git_session$ sudo apt-get install git
Reading package lists... Done
Building dependency tree
Reading state information... Done
git is already the newest version (1:2.17.1-1ubuntu0.5).
0 upgraded, 0 newly installed, 0 to remove and 480 not upgraded.
arjun@arjun:~/git_session$ git config --global user.name "arjunsingh"
arjun@arjun:~/git_session$ git config --global user.email "arjunsingh73362@gmail.com"
arjun@arjun:~/git_session$
```

2. Initialize a Git Repository



A terminal window titled 'arjun@arjun: ~/git_session' showing the initialization of a Git repository. The user runs 'git init', which outputs 'Reinitialized existing Git repository in /home/arjun/git_session/.git/'. Then, the user runs 'll' (ls -ll), which lists the contents of the directory, showing the newly created '.git/' directory and a file named 'qwerty.txt'.

```
arjun@arjun:~/git_session$ git init
Reinitialized existing Git repository in /home/arjun/git_session/.git/
arjun@arjun:~/git_session$ ll
total 12
drwxr-xr-x  3 arjun arjun 4096 Feb  4 11:41 ./
drwxr-xr-x 21 arjun arjun 4096 Feb  4 11:36 ../
drwxr-xr-x  7 arjun arjun 4096 Feb  4 11:43 .git/
-rw-r--r--  1 arjun arjun   0 Feb  4 11:36 qwerty.txt
arjun@arjun:~/git_session$
```

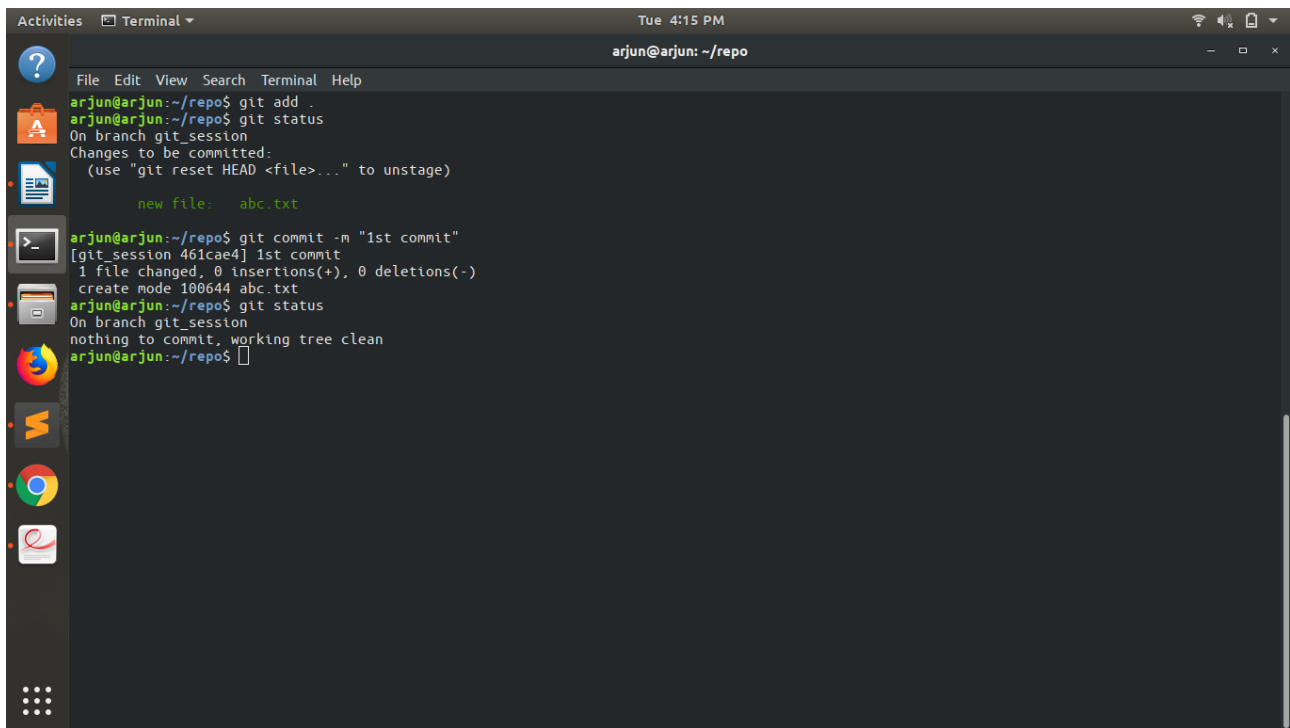
3. Add files to the repository

```
Activities Terminal Tue 4:09 PM arjun@arjun: ~/repo
File Edit View Search Terminal Help
arjun@arjun:~/repo$ touch abc.txt
arjun@arjun:~/repo$ git status
On branch git_session
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        abc.txt
nothing added to commit but untracked files present (use "git add" to track)
arjun@arjun:~/repo$ git add abc.txt
arjun@arjun:~/repo$ git status
On branch git_session
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)
        new file:   abc.txt
arjun@arjun:~/repo$
```

4.Unstage 1 file

```
Activities Terminal Tue 4:13 PM arjun@arjun: ~/repo
File Edit View Search Terminal Help
arjun@arjun:~/repo$ touch abc.txt
arjun@arjun:~/repo$ git status
On branch git_session
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        abc.txt
nothing added to commit but untracked files present (use "git add" to track)
arjun@arjun:~/repo$ git add abc.txt
arjun@arjun:~/repo$ git status
On branch git_session
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)
        new file:   abc.txt
arjun@arjun:~/repo$ git reset HEAD abc.txt
arjun@arjun:~/repo$ git status
On branch git_session
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        abc.txt
nothing added to commit but untracked files present (use "git add" to track)
arjun@arjun:~/repo$
```

5.Commit the file



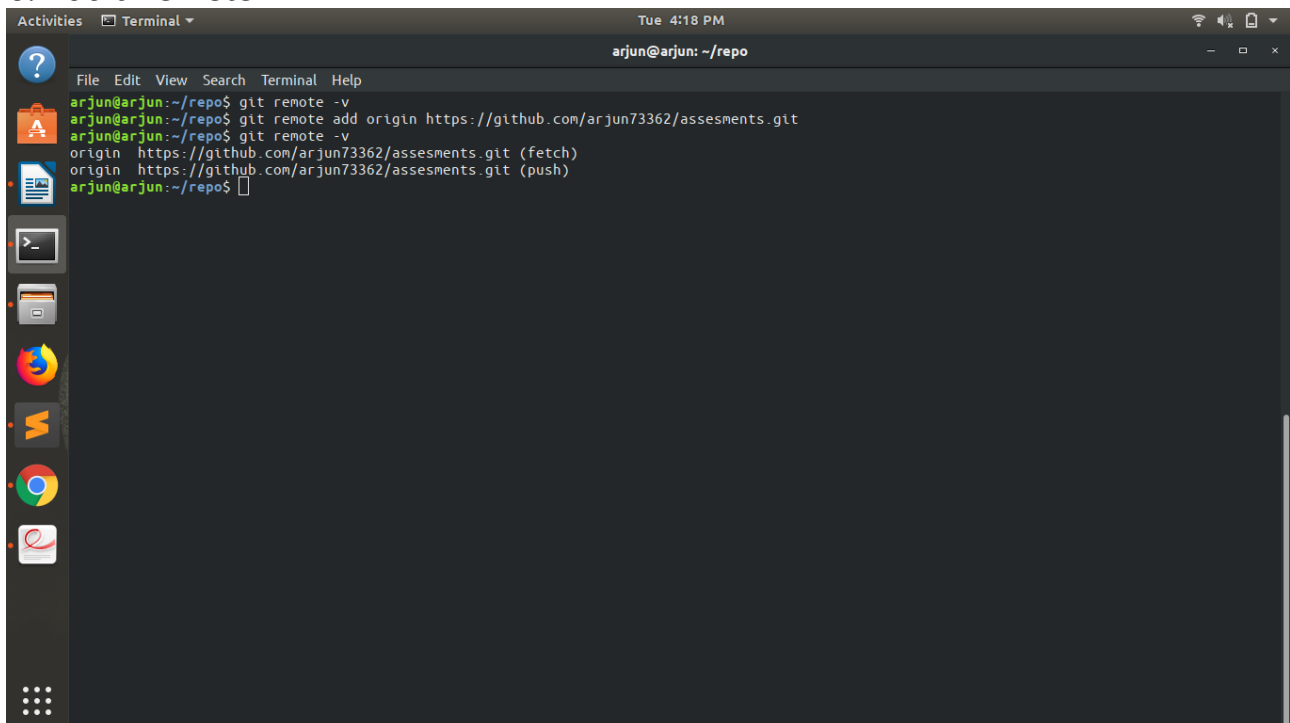
A terminal window titled "arjun@arjun: ~/repo" showing the following commands and output:

```
arjun@arjun:~/repo$ git add .
arjun@arjun:~/repo$ git status
On branch git_session
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        new file:   abc.txt

arjun@arjun:~/repo$ git commit -m "1st commit"
[git_session 461cae4] 1st commit
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 abc.txt
arjun@arjun:~/repo$ git status
On branch git_session
nothing to commit, working tree clean
arjun@arjun:~/repo$
```

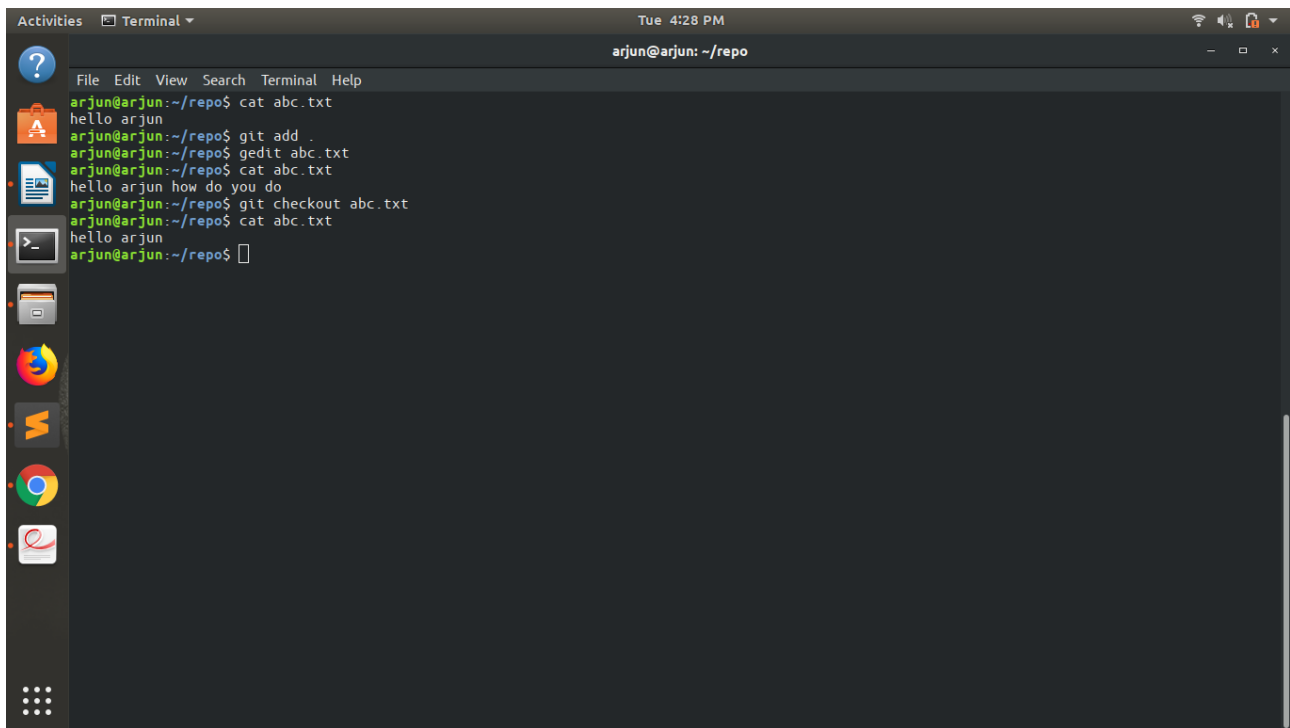
6.Add a remote



A terminal window titled "arjun@arjun: ~/repo" showing the following commands and output:

```
arjun@arjun:~/repo$ git remote -v
arjun@arjun:~/repo$ git remote add origin https://github.com/arjun73362/assessments.git
arjun@arjun:~/repo$ git remote -v
origin https://github.com/arjun73362/assessments.git (fetch)
origin https://github.com/arjun73362/assessments.git (push)
arjun@arjun:~/repo$
```

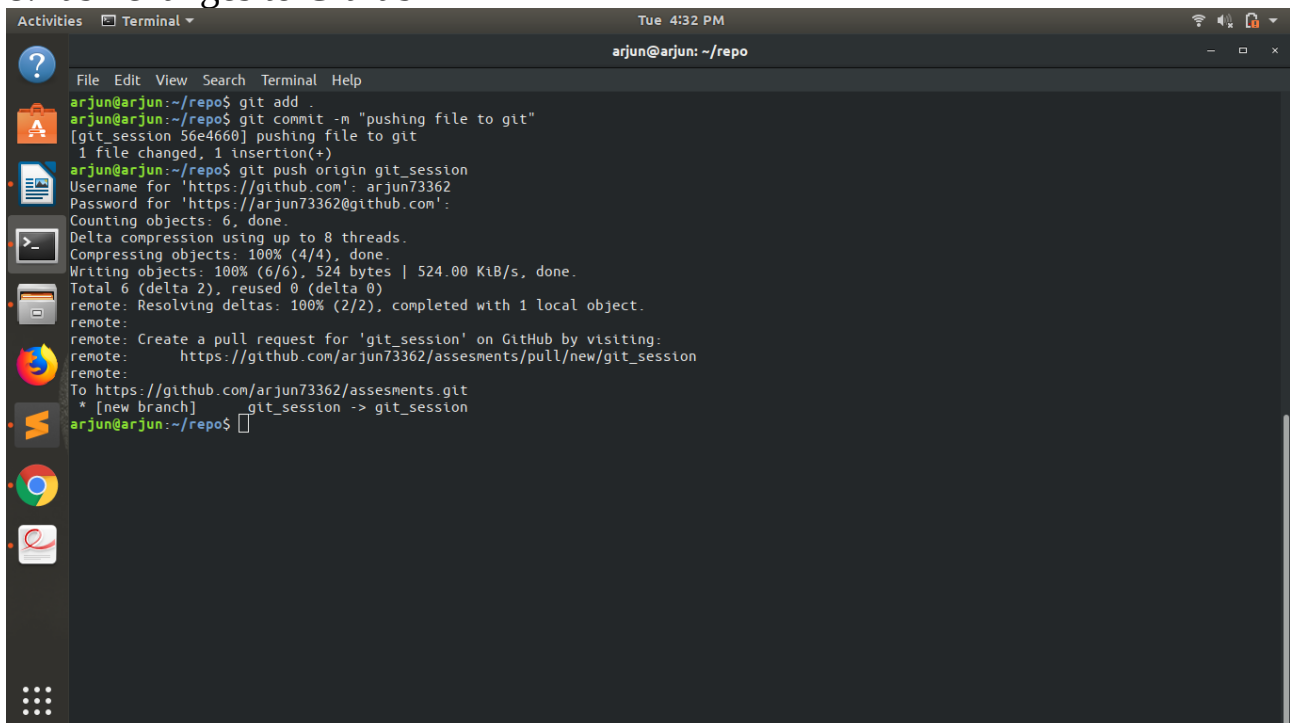
7.Undo changes to a particular file



A terminal window titled 'arjun@arjun: ~/repo' showing a series of commands and their outputs. The user creates a file 'abc.txt' with the text 'hello arjun', adds it to the git repository, and then checks it out. The terminal output is as follows:

```
arjun@arjun:~/repo$ cat abc.txt
hello arjun
arjun@arjun:~/repo$ git add .
arjun@arjun:~/repo$ gedit abc.txt
arjun@arjun:~/repo$ cat abc.txt
hello arjun how do you do
arjun@arjun:~/repo$ git checkout abc.txt
arjun@arjun:~/repo$ cat abc.txt
hello arjun
arjun@arjun:~/repo$
```

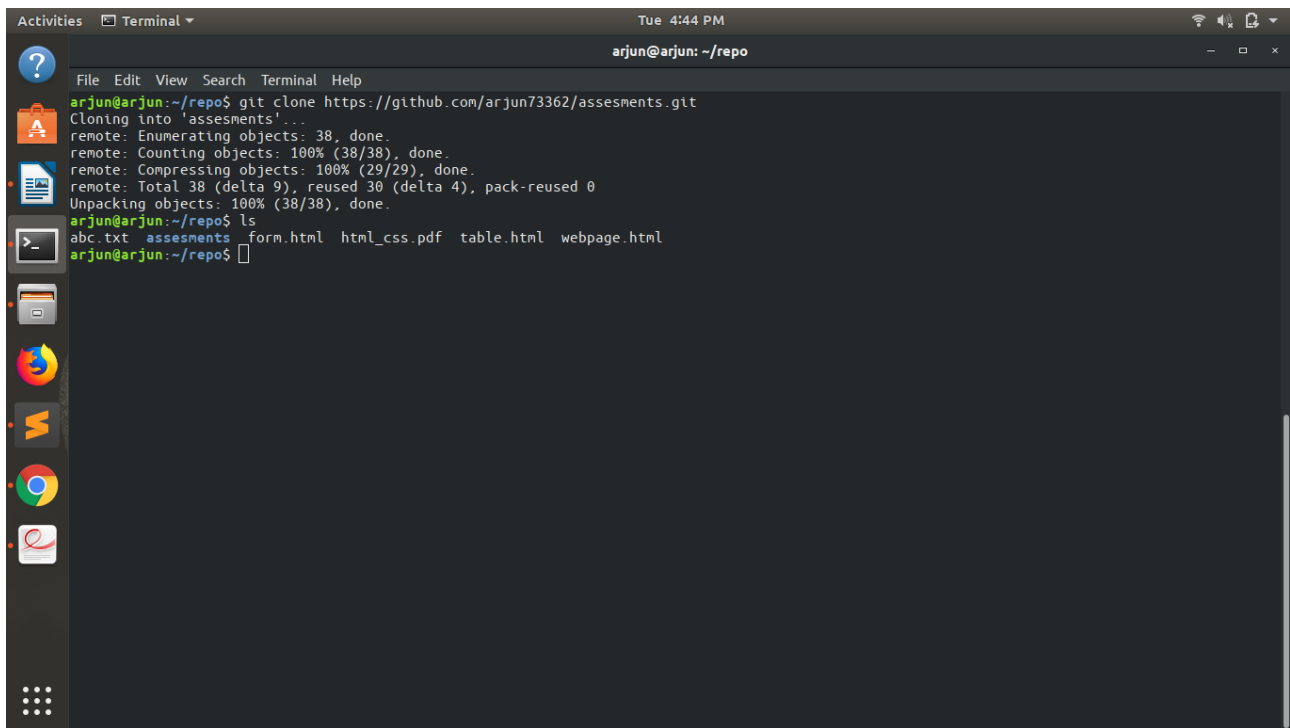
8.Push changes to Github



A terminal window titled 'arjun@arjun: ~/repo' showing the process of pushing changes to a remote repository. The user runs 'git push origin git_session', which prompts for a username and password. The output shows the objects being pushed and the creation of a pull request on GitHub. The terminal output is as follows:

```
arjun@arjun:~/repo$ git add .
arjun@arjun:~/repo$ git commit -m "pushing file to git"
[git_session 56e4660] pushing file to git
1 file changed, 1 insertion(+)
arjun@arjun:~/repo$ git push origin git_session
Username for 'https://github.com': arjun73362
Password for 'https://arjun73362@github.com':
Counting objects: 6, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (6/6), 524 bytes | 524.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0)
remote: Resolving deltas: 100% (2/2), completed with 1 local object.
remote:
remote: Create a pull request for 'git_session' on GitHub by visiting:
remote:   https://github.com/arjun73362/assessments/pull/new/git_session
remote:
To https://github.com/arjun73362/assessments.git
 * [new branch]      git_session -> git_session
arjun@arjun:~/repo$
```

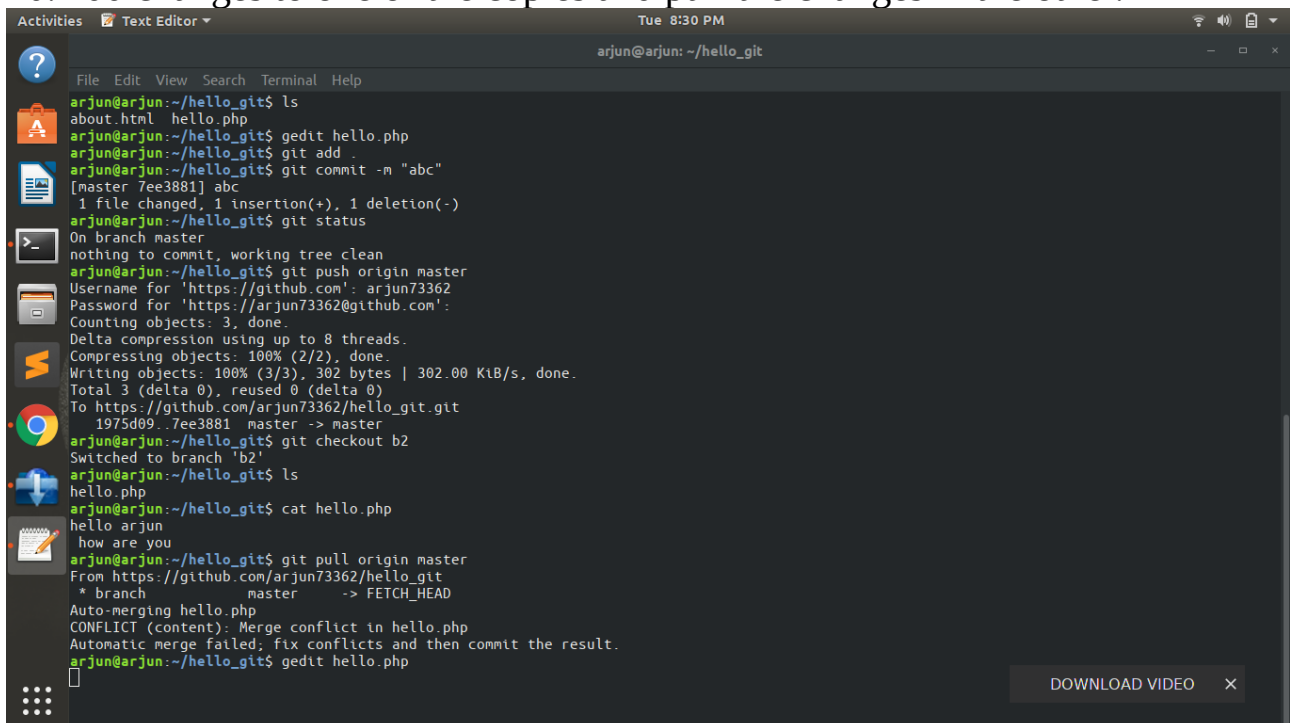
9.Clone the repository



A terminal window titled 'arjun@arjun: ~/repo' showing the process of cloning a repository and listing files. The terminal output is as follows:

```
File Edit View Search Terminal Help
arjun@arjun:~/repo$ git clone https://github.com/arjun73362/assessments.git
Cloning into 'assessments'...
remote: Enumerating objects: 38, done.
remote: Counting objects: 100% (38/38), done.
remote: Compressing objects: 100% (29/29), done.
remote: Total 38 (delta 9), reused 30 (delta 4), pack-reused 0
Unpacking objects: 100% (38/38), done.
arjun@arjun:~/repo$ ls
abc.txt  assessments  form.html  html_css.pdf  table.html  webpage.html
arjun@arjun:~/repo$
```

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



A terminal window titled 'arjun@arjun: ~/hello_git' showing a series of git operations. The terminal output is as follows:

```
File Edit View Search Terminal Help
arjun@arjun:~/hello_git$ ls
about.html  hello.php
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ git add .
arjun@arjun:~/hello_git$ git commit -m "abc"
[master 7ee3881] abc
1 file changed, 1 insertion(+), 1 deletion(-)
arjun@arjun:~/hello_git$ git status
On branch master
nothing to commit, working tree clean
arjun@arjun:~/hello_git$ git push origin master
Username for 'https://github.com': arjun73362
Password for 'https://arjun73362@github.com':
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 302 bytes | 302.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/arjun73362/hello_git.git
1975d09..7ee3881 master -> master
arjun@arjun:~/hello_git$ git checkout b2
Switched to branch 'b2'
arjun@arjun:~/hello_git$ ls
hello.php
arjun@arjun:~/hello_git$ cat hello.php
hello arjun
how are you
arjun@arjun:~/hello_git$ git pull origin master
From https://github.com/arjun73362/hello_git
* branch      master       -> FETCH_HEAD
Auto-merging hello.php
CONFLICT (content): Merge conflict in hello.php
Automatic merge failed; fix conflicts and then commit the result.
arjun@arjun:~/hello_git$ gedit hello.php
```

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```
Activities Terminal Tue 8:33 PM
arjun@arjun: ~/hello_git

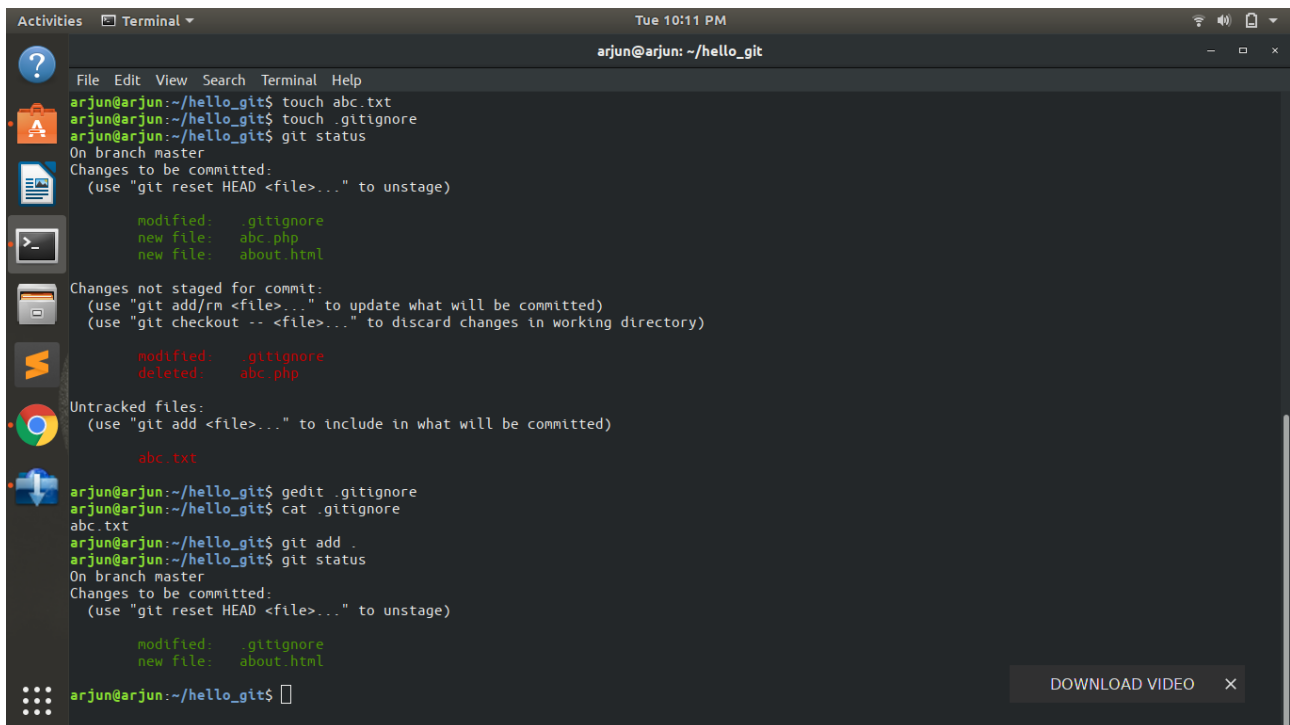
File Edit View Search Terminal Help
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 302 bytes | 302.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/arjun73362/hello_git.git
1975d09..7ee3881 master -> master
arjun@arjun:~/hello_git$ git checkout b2
Switched to branch 'b2'
arjun@arjun:~/hello_git$ ls
hello.php
arjun@arjun:~/hello_git$ cat hello.php
hello arjun
how are you
arjun@arjun:~/hello_git$ git pull origin master
From https://github.com/arjun73362/hello_git
* branch      master       -> FETCH_HEAD
Auto-merging hello.php
CONFLICT (content): Merge conflict in hello.php
Automatic merge failed; fix conflicts and then commit the result.
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ git add .
arjun@arjun:~/hello_git$ git pull origin master
error: You have not concluded your merge (MERGE_HEAD exists).
hint: Please, commit your changes before merging.
fatal: Exiting because of unfinished merge.
arjun@arjun:~/hello_git$ git commit -m "hello"
[b2 5ec31cd] hello
arjun@arjun:~/hello_git$ git pull origin master
From https://github.com/arjun73362/hello_git
* branch      master       -> FETCH_HEAD
Already up to date.
arjun@arjun:~/hello_git$ cat hello.php
hello arjun
how are you
hello world what are you doing
arjun@arjun:~/hello_git$
```

11. Check differences between a file and its staged version

```
Activities Terminal Tue 6:05 PM
arjun@arjun: ~/hello_git

File Edit View Search Terminal Help
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ git add .
arjun@arjun:~/hello_git$ git commit -m "updated"
[b2 8d8ab7c] updated
1 file changed, 2 insertions(+), 1 deletion(-)
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ git diff hello.html
fatal: ambiguous argument 'hello.html': unknown revision or path not in the working tree.
Use '--' to separate paths from revisions, like this:
'git <command> [<revision>...] -- [<file>...]'
arjun@arjun:~/hello_git$ git diff hello.php
diff --git a/hello.php b/hello.php
index 91b57c2..4f7f618 100644
--- a/hello.php
+++ b/hello.php
@@ -1,2 +1,2 @@
 hello arjun
+ how are you
arjun@arjun:~/hello_git$
```

12. Ignore a few files to be checked in



A terminal window titled "arjun@arjun: ~/hello_git" showing the output of several git commands. The user has created a new file .gitignore, added it to the repository, and then added two more files, abc.php and about.html. The terminal output shows the status of these files as "new file" and "modified". It also shows the status of the repository as "On branch master" and "Changes to be committed". The user has also run "git add ." to stage all changes.

```
arjun@arjun:~/hello_git$ touch abc.txt
arjun@arjun:~/hello_git$ touch .gitignore
arjun@arjun:~/hello_git$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        modified:   .gitignore
        new file:   abc.php
        new file:   about.html

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:   .gitignore
        deleted:    abc.php

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

        abc.txt

arjun@arjun:~/hello_git$ gedit .gitignore
arjun@arjun:~/hello_git$ cat .gitignore
abc.txt
arjun@arjun:~/hello_git$ git add .
arjun@arjun:~/hello_git$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        modified:   .gitignore
        new file:   about.html

arjun@arjun:~/hello_git$
```

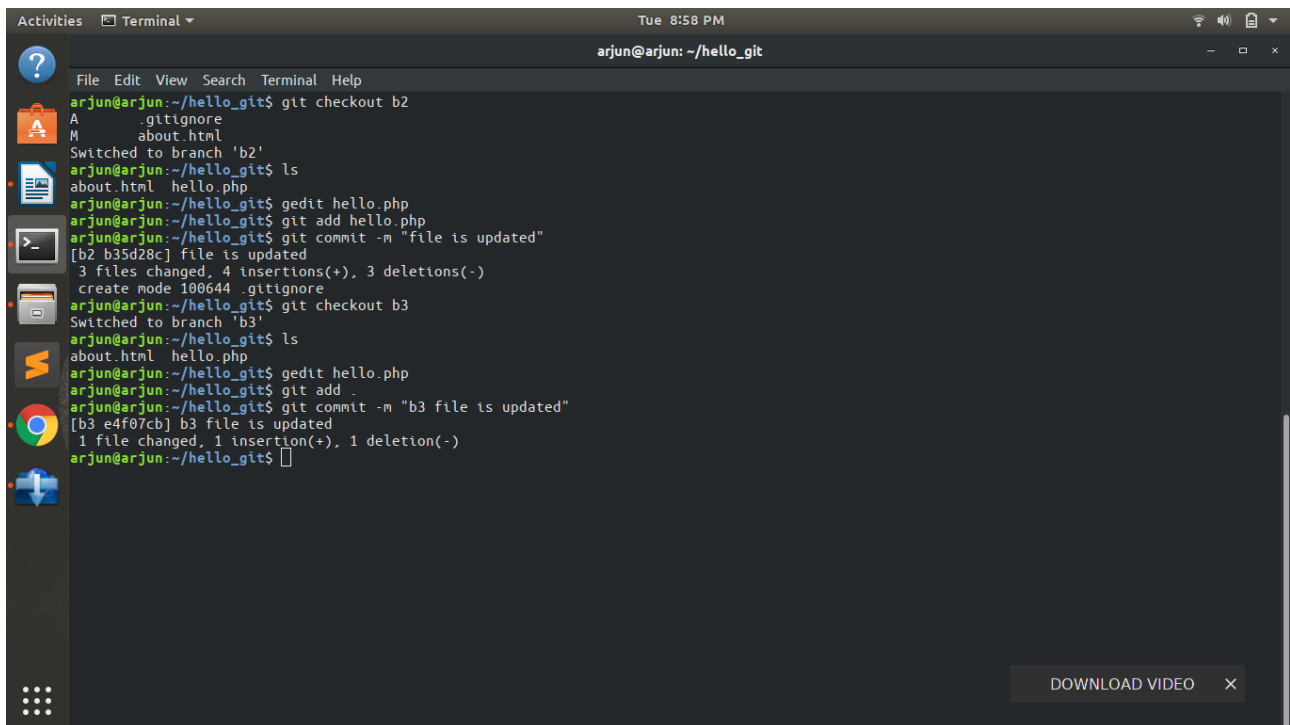
13.Create a new branch.



A terminal window titled "arjun@arjun: ~/hello_git" showing the output of several git commands. The user has created a new branch named "b2", checked out to it, and then created another branch named "b3". The terminal output shows the status of the repository as "On branch master" and "Changes to be committed". The user has also run "git add ." to stage all changes.

```
arjun@arjun:~/hello_git$ git branch
* b2
master
arjun@arjun:~/hello_git$ git checkout -b b3
A       .gitignore
M       about.html
Switched to a new branch 'b3'
arjun@arjun:~/hello_git$ git branch
* b2
* b3
master
arjun@arjun:~/hello_git$
```

14.Diverge them with commits



```
arjun@arjun: ~/hello_git
File Edit View Search Terminal Help
arjun@arjun:~/hello_git$ git checkout b2
A .gitignore
M about.html
Switched to branch 'b2'
arjun@arjun:~/hello_git$ ls
about.html  hello.php
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ git add hello.php
arjun@arjun:~/hello_git$ git commit -m "file is updated"
[b2 b35d28c] file is updated
3 files changed, 4 insertions(+), 3 deletions(-)
create mode 100644 .gitignore
arjun@arjun:~/hello_git$ git checkout b3
Switched to branch 'b3'
arjun@arjun:~/hello_git$ ls
about.html  hello.php
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ git add .
arjun@arjun:~/hello_git$ git commit -m "b3 file is updated"
[b3 e4f07cb] b3 file is updated
1 file changed, 1 insertion(+), 1 deletion(-)
arjun@arjun:~/hello_git$
```

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



```
arjun@arjun: ~/hello_git
File Edit View Search Terminal Help
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ git add .
arjun@arjun:~/hello_git$ git commit -m "abc"
[b2 f80de54] abc
arjun@arjun:~/hello_git$ git checkout master
Switched to branch 'master'
arjun@arjun:~/hello_git$ git merge b2
Updating 0da2cca..f80de54
Fast-forward
 .gitignore | 1 +
 about.html | 4 +++
 hello.php  | 2 ++
3 files changed, 5 insertions(+), 2 deletions(-)
create mode 100644 .gitignore
arjun@arjun:~/hello_git$ git status
On branch master
nothing to commit, working tree clean
arjun@arjun:~/hello_git$ git commit -m "file edit on both branches"
On branch master
nothing to commit, working tree clean
arjun@arjun:~/hello_git$
```

16. Try merging and resolve merge conflicts


```
Activities Text Editor Tue 8:30 PM
arjun@arjun: ~/hello_git

File Edit View Search Terminal Help

arjun@arjun:~/hello_git$ ls
about.html  hello.php
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ git add .
arjun@arjun:~/hello_git$ git commit -m "abc"
[master 7ee3881] abc
1 file changed, 1 insertion(+), 1 deletion(-)
arjun@arjun:~/hello_git$ git status
On branch master
nothing to commit, working tree clean
arjun@arjun:~/hello_git$ git push origin master
Username for 'https://github.com': arjun73362
Password for 'https://arjun73362@github.com':
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 302 bytes | 302.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/arjun73362/hello_git.git
1975d09..7ee3881 master -> master
arjun@arjun:~/hello_git$ git checkout b2
Switched to branch 'b2'
arjun@arjun:~/hello_git$ ls
hello.php
arjun@arjun:~/hello_git$ cat hello.php
hello arjun
how are you
arjun@arjun:~/hello_git$ git pull origin master
From https://github.com/arjun73362/hello_git
* branch      master       -> FETCH_HEAD
Auto-merging hello.php
CONFLICT (content): Merge conflict in hello.php
Automatic merge failed; fix conflicts and then commit the result.
arjun@arjun:~/hello_git$ gedit hello.php
```

```
Activities Text Editor Tue 8:30 PM
hello.php
~/hello_git

Open Save

<<<<<< HEAD
hello arjun
how are you
=====
hello world what are you doing
>>>>>> 7ee388110cde8b6a7e5a902fbce8bdb5c4085542
```

```
Activities Terminal Tue 8:33 PM arjun@arjun: ~/hello_git
File Edit View Search Terminal Help
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 302 bytes | 302.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/arjun73362/hello_git.git
1975d09..7ee3881 master -> master
arjun@arjun:~/hello_git$ git checkout b2
Switched to branch 'b2'
arjun@arjun:~/hello_git$ ls
hello.php
arjun@arjun:~/hello_git$ cat hello.php
hello arjun
how are you
arjun@arjun:~/hello_git$ git pull origin master
From https://github.com/arjun73362/hello_git
* branch      master       -> FETCH_HEAD
Auto-merging hello.php
CONFLICT (content): Merge conflict in hello.php
Automatic merge failed; fix conflicts and then commit the result.
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ git add .
arjun@arjun:~/hello_git$ git pull origin master
error: You have not concluded your merge (MERGE_HEAD exists).
hint: Please, commit your changes before merging.
fatal: Exiting because of unfinished merge.
arjun@arjun:~/hello_git$ git commit -m "hello"
[b2 5ec31cd] hello
arjun@arjun:~/hello_git$ git pull origin master
From https://github.com/arjun73362/hello_git
* branch      master       -> FETCH_HEAD
Already up to date.
arjun@arjun:~/hello_git$ cat hello.php
hello arjun
how are you
hello world what are you doing
arjun@arjun:~/hello_git$
```

17. Stash the changes and pop them

```
Activities Terminal Tue 9:19 PM arjun@arjun: ~/hello_git
File Edit View Search Terminal Help
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ cat hello.php
abcd
arjun@arjun:~/hello_git$ git stash
Saved working directory and index state WIP on b2: b35d28c file is updated
arjun@arjun:~/hello_git$ gedit hello.php
arjun@arjun:~/hello_git$ cat hello.php
hello arjun
arjun@arjun:~/hello_git$ git stash pop
On branch b2
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)

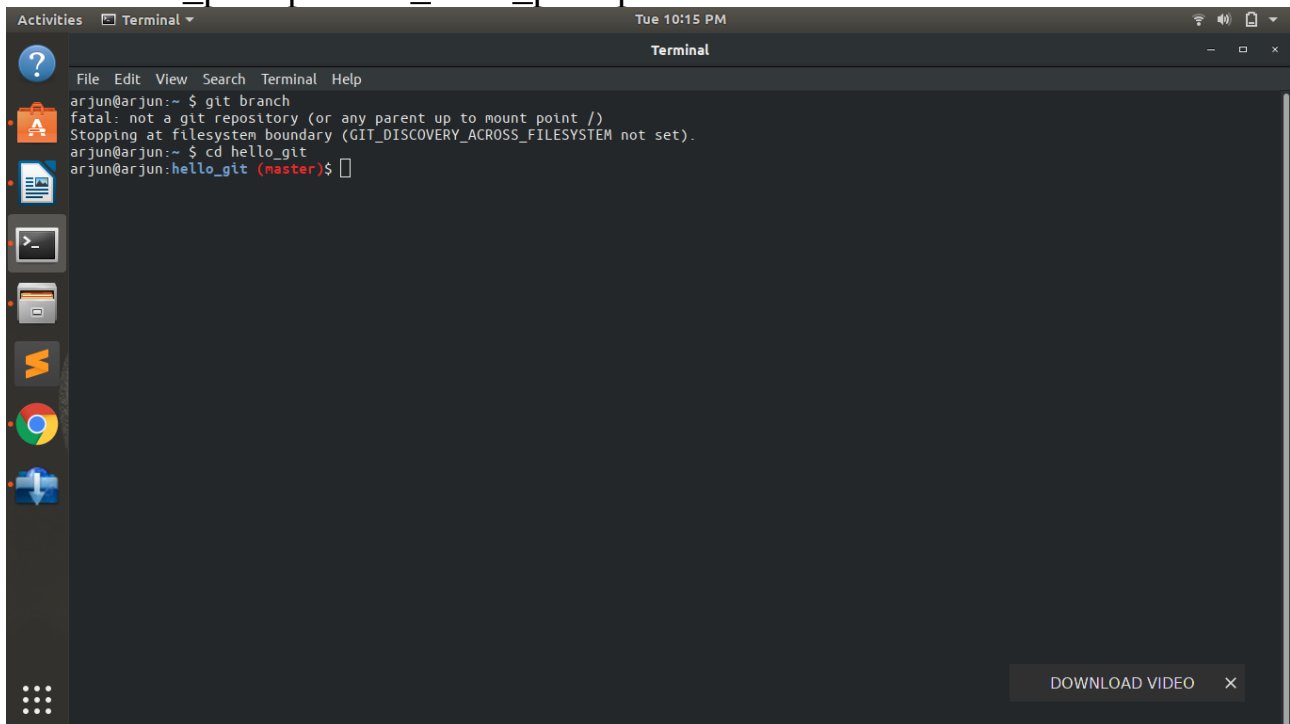
    modified:   .gitignore
    modified:   about.html
    modified:   hello.php

no changes added to commit (use "git add" and/or "git commit -a")
Dropped refs/stash@{0} (a647d2bc35e43c3d876c0d38546d74b86ccdf6b)
arjun@arjun:~/hello_git$ cat hello.php
abcd
arjun@arjun:~/hello_git$
```

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
```

A screenshot of a Linux terminal window. The window title is "Terminal" and it shows the command history. The user has run "git branch" which resulted in a fatal error: "fatal: not a git repository (or any parent up to mount point /) Stopping at filesystem boundary (GIT_DISCOVERY_ACROSS_FILESYSTEM not set)." The user then ran "cd hello_git" and the prompt changed to "hello_git (master)".

```
arjun@arjun:~$ git branch
fatal: not a git repository (or any parent up to mount point /)
Stopping at filesystem boundary (GIT_DISCOVERY_ACROSS_FILESYSTEM not set).
arjun@arjun:~$ cd hello_git
arjun@arjun:hello_git (master)$
```

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