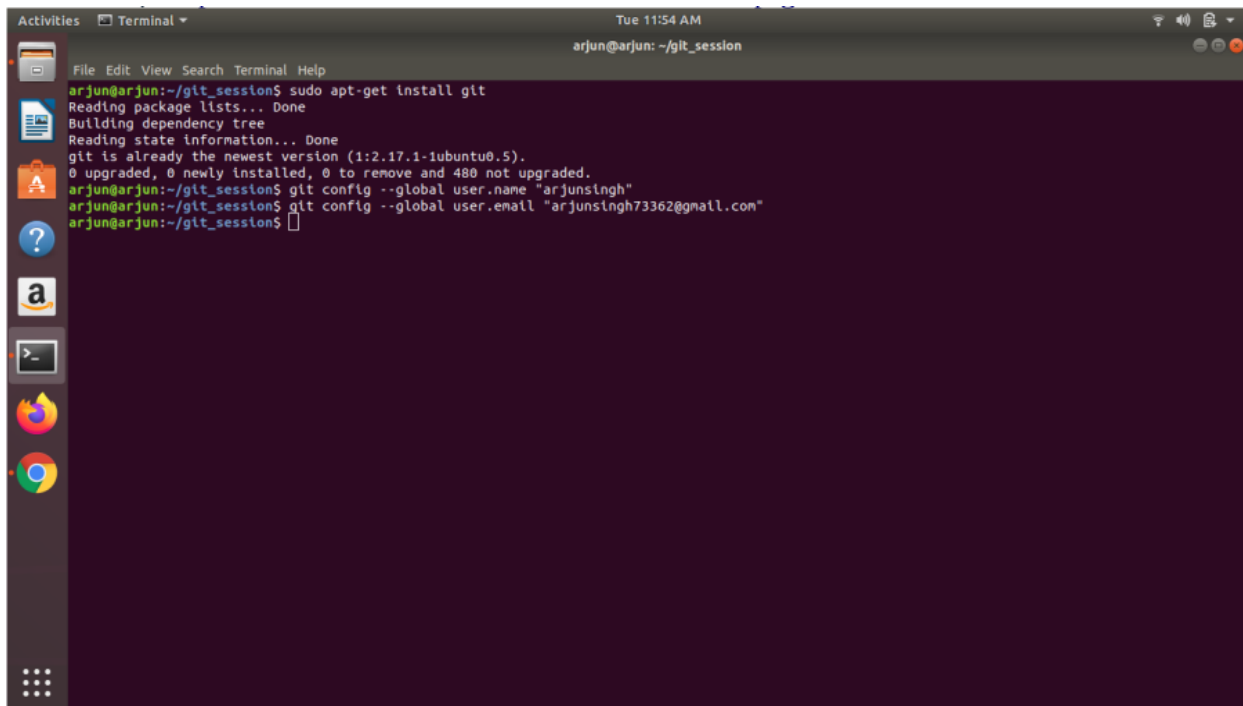


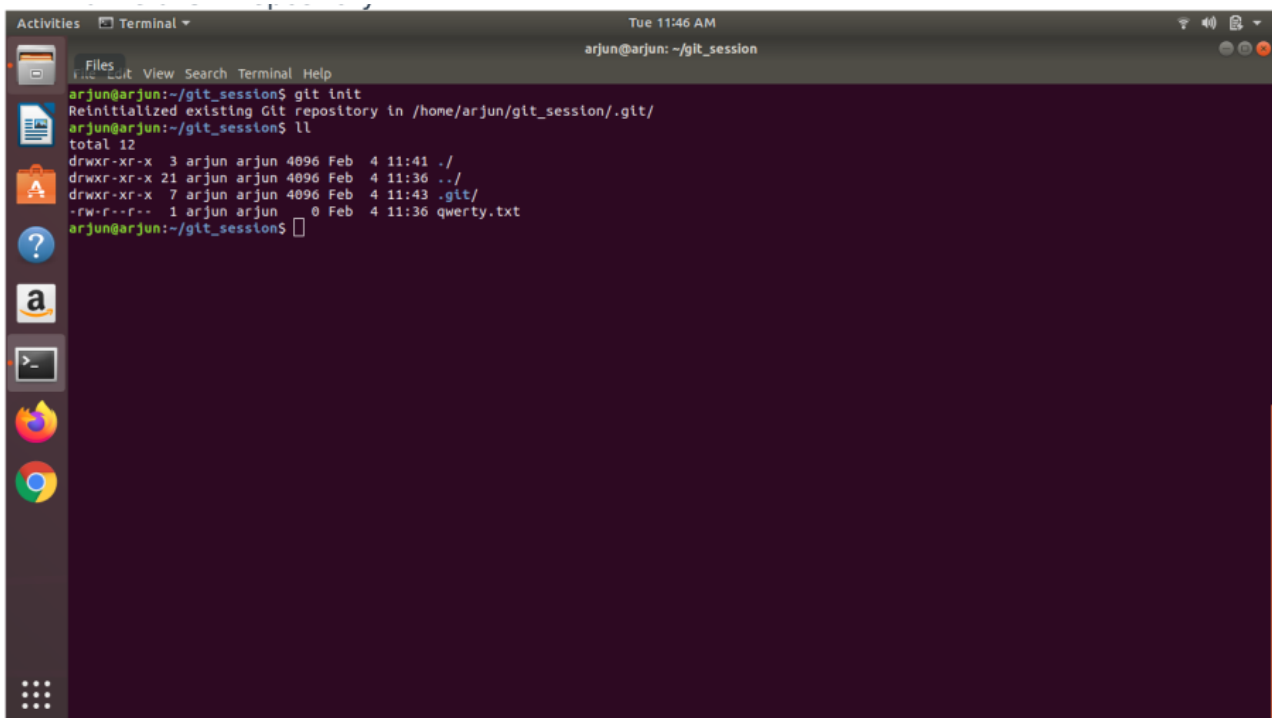
1. Git Setup <https://confluence.atlassian.com/bitbucket/set-up-git-744723531.html>



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 indicates that Git is already the newest version (1:2.17.1-1ubuntu0.5) and that 0 packages were upgraded, 0 newly installed, 0 to be removed, and 480 not upgraded. Then, the user runs 'git config --global user.name "arjunsingh"' and 'git config --global user.email "arjunsingh73362@gmail.com"'. The terminal output is as follows:

```
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$
```

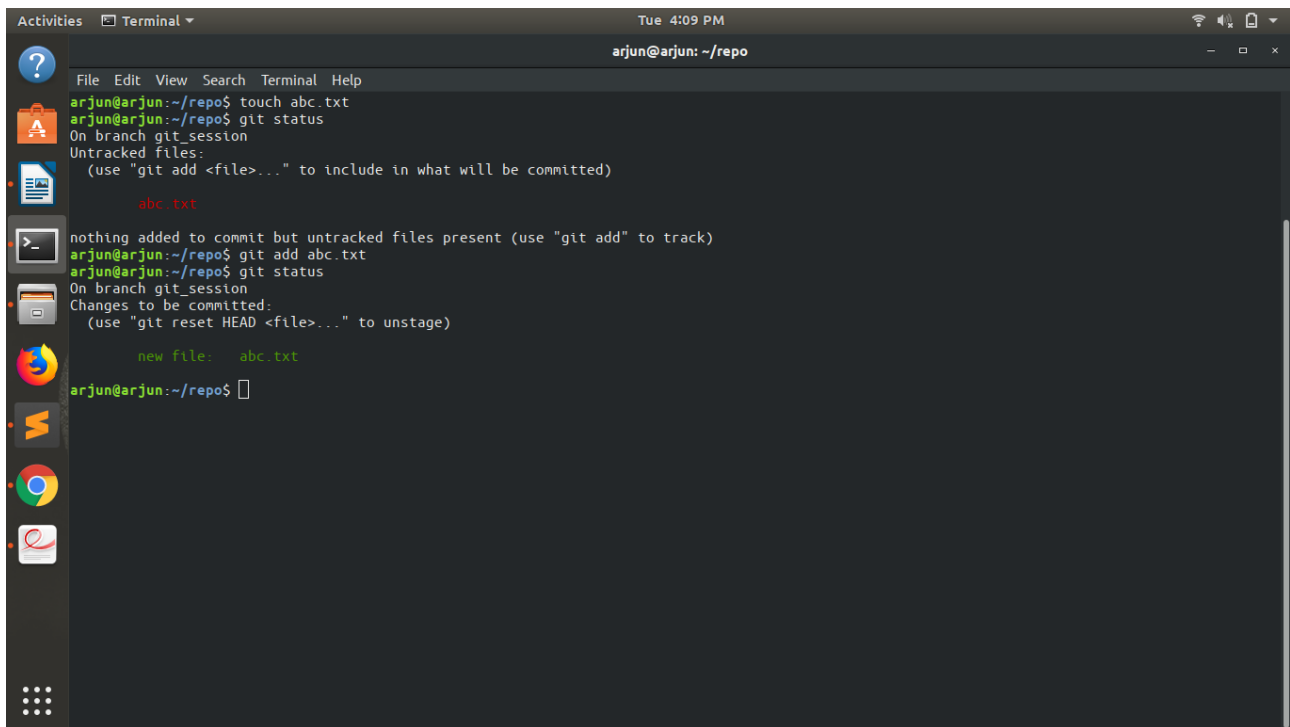
2. Initialize a Git Repository



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 -l), which shows the directory listing. The output is as follows:

```
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



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

```
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)

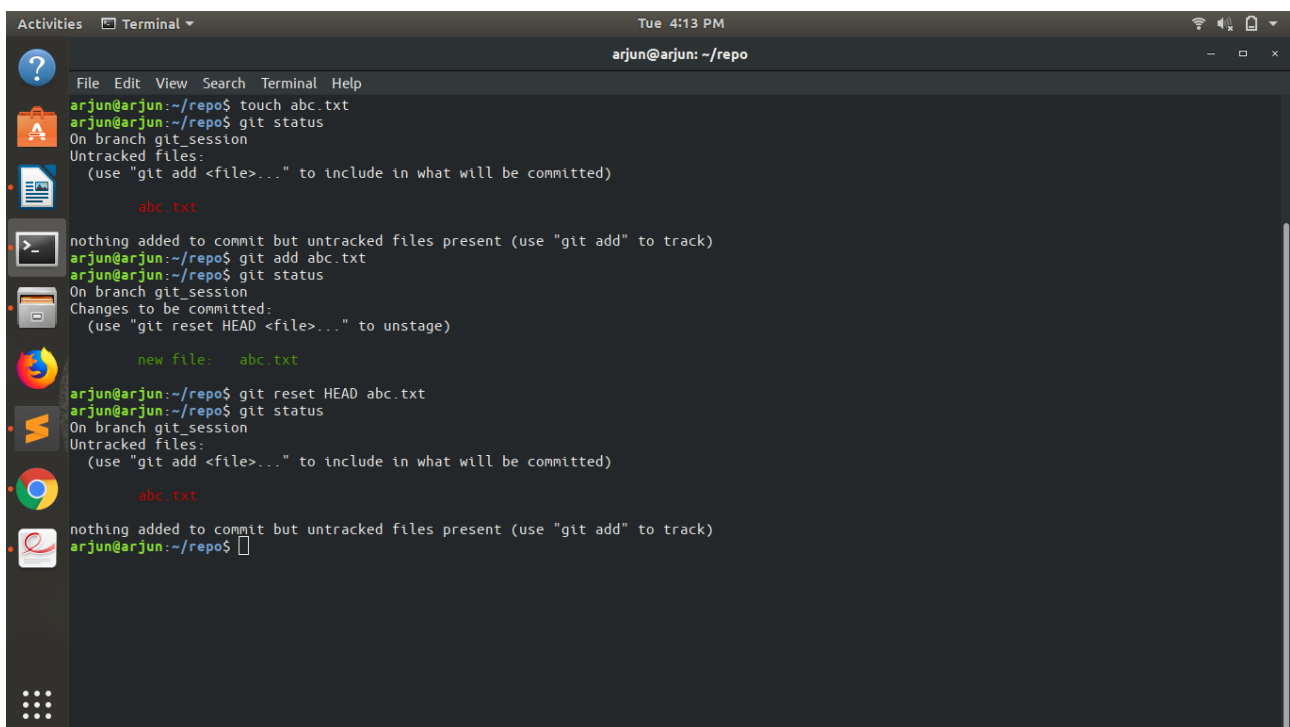
        abc.txt

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



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

```
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)

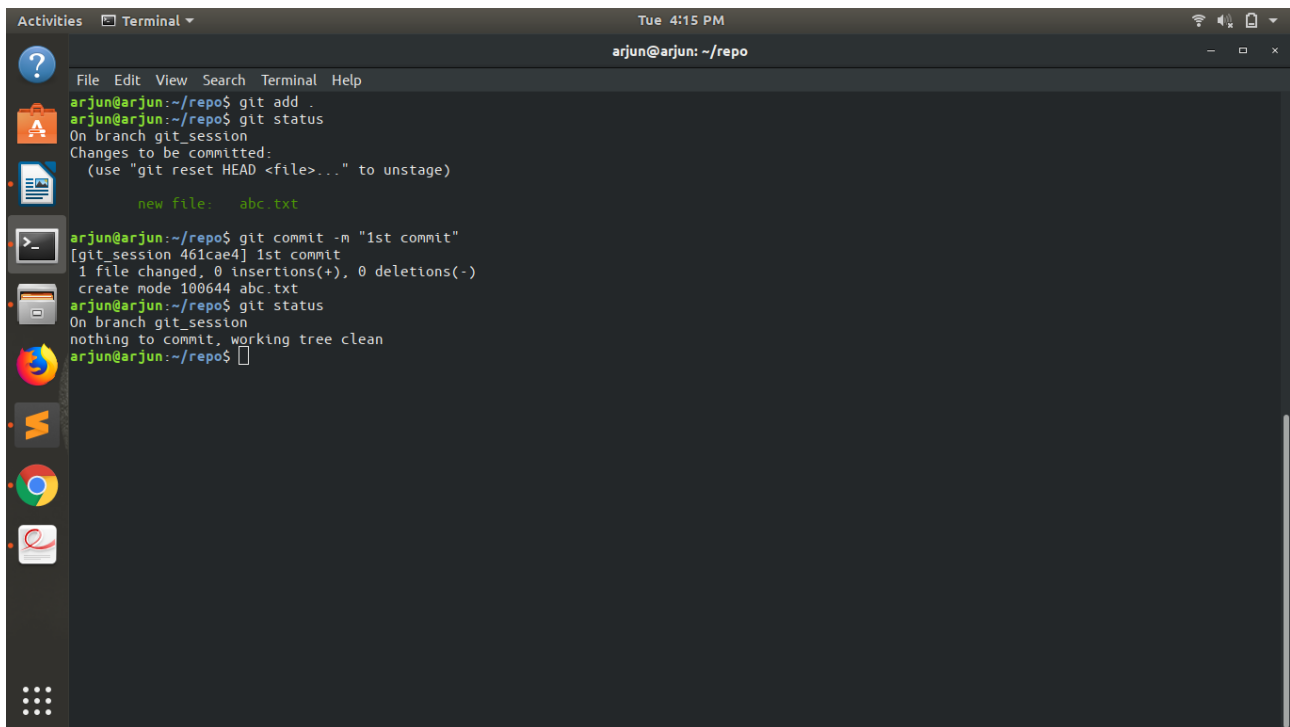
        new file:   abc.txt

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

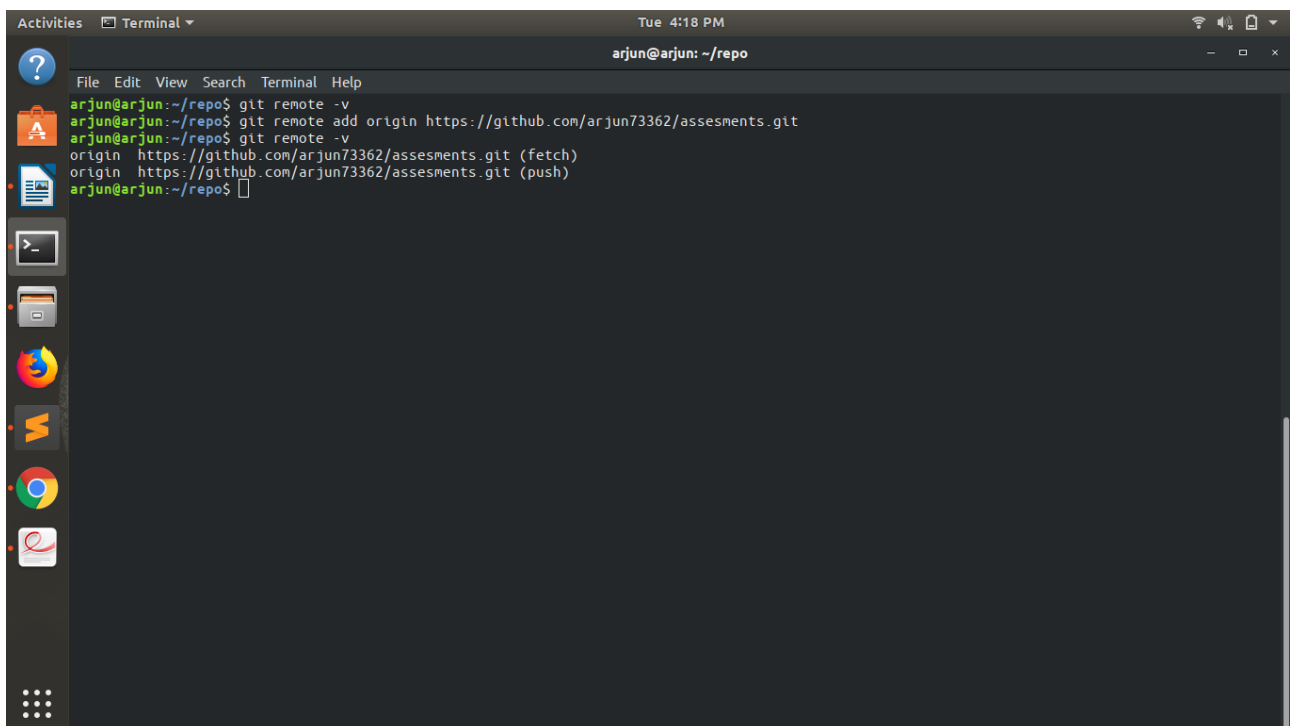


```
arjun@arjun: ~/repo
arjun@arjun:~/repo$ git add .
arjun@arjun:~/repo$ git status
On branch git_session
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        new file:   abc.txt

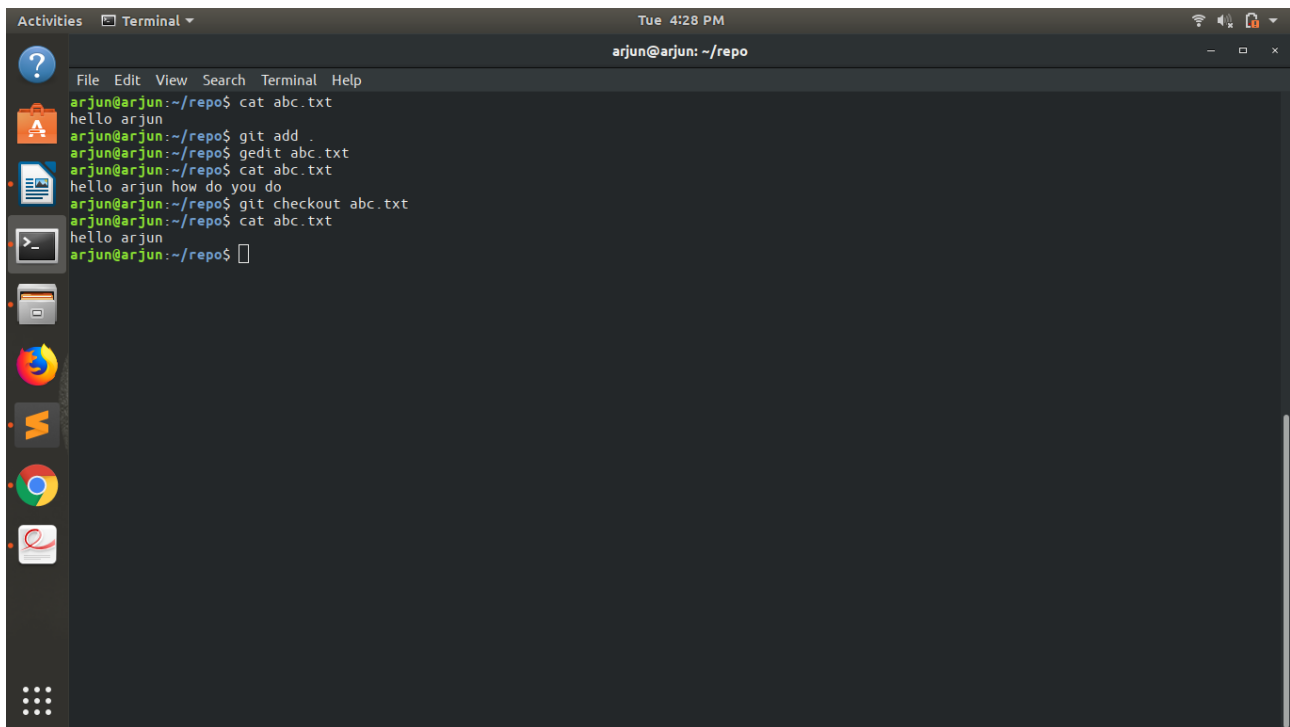
arjun@arjun:~/repo$ git commit -m "1st commit"
[git_session 461cae4] 1st commit
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 abc.txt
arjun@arjun:~/repo$ git status
On branch git_session
nothing to commit, working tree clean
arjun@arjun:~/repo$
```

6.Add a remote



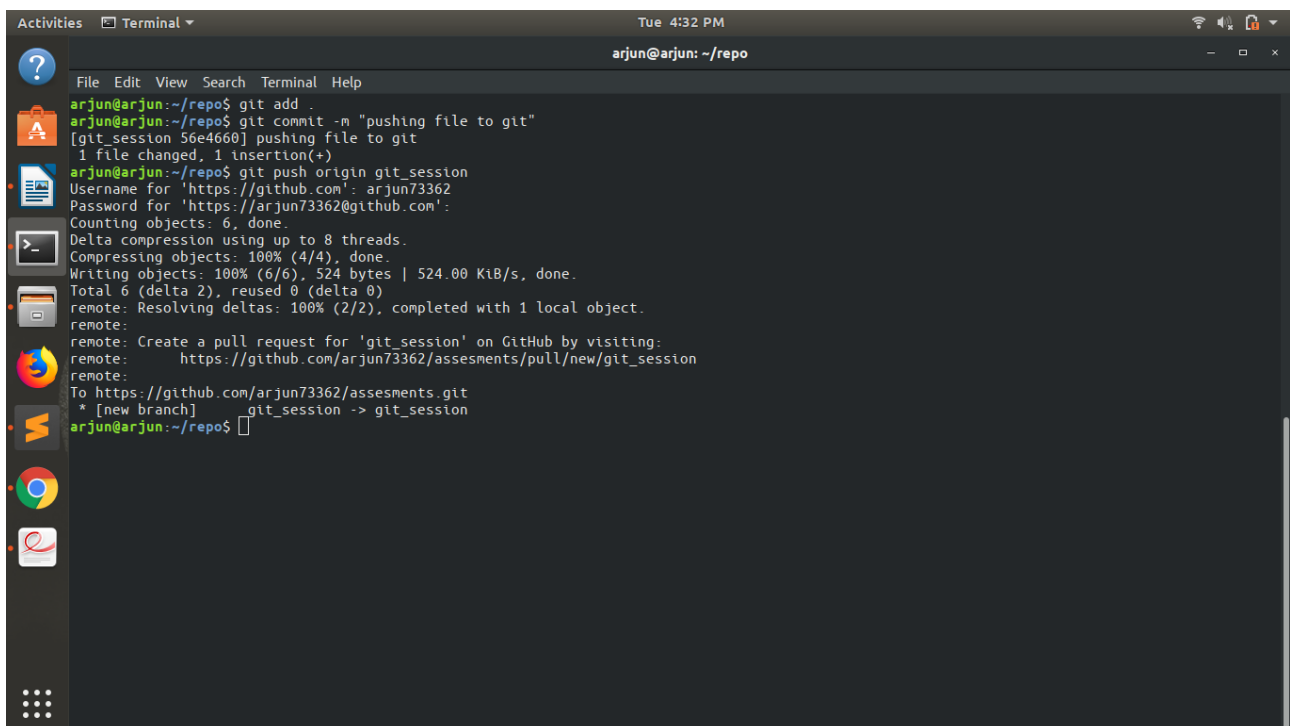
```
arjun@arjun: ~/repo
arjun@arjun:~/repo$ git remote -v
arjun@arjun:~/repo$ git remote add origin https://github.com/arjun73362/assessments.git
arjun@arjun:~/repo$ git remote -v
origin https://github.com/arjun73362/assessments.git (fetch)
origin https://github.com/arjun73362/assessments.git (push)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

7.Undo changes to a particular file

A terminal window titled 'arjun@arjun: ~/repo' showing a sequence of commands to create a file, commit it, and then checkout a previous version. The commands are: 'cat abc.txt' (output: 'hello arjun'), 'git add .', 'gedit abc.txt' (output: 'hello arjun how do you do'), 'git checkout abc.txt', and 'cat abc.txt' (output: 'hello arjun').

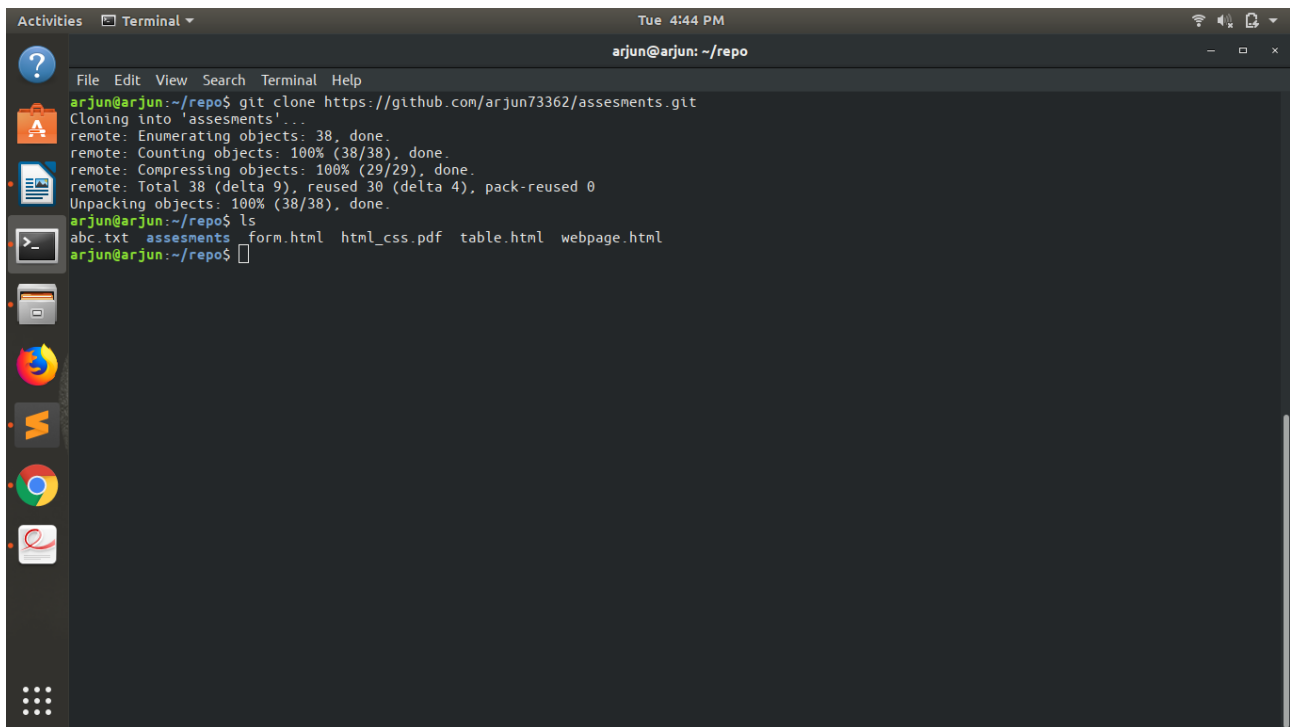
```
arjun@arjun:~/repo$ cat abc.txt
hello arjun
arjun@arjun:~/repo$ git add .
arjun@arjun:~/repo$ gedit abc.txt
arjun@arjun:~/repo$ cat abc.txt
hello arjun how do you do
arjun@arjun:~/repo$ git checkout abc.txt
arjun@arjun:~/repo$ cat abc.txt
hello arjun
arjun@arjun:~/repo$
```

8.Push changes to Github

A terminal window titled 'arjun@arjun: ~/repo' showing the process of pushing changes to GitHub. The commands are: 'git add .', 'git commit -m "pushing file to git"', and 'git push origin git_session'. The output shows the commit process, including object counting, compression, and writing. It then prompts for a GitHub username and password, and finally shows the push status, including a link to create a pull request on GitHub.

```
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$
```

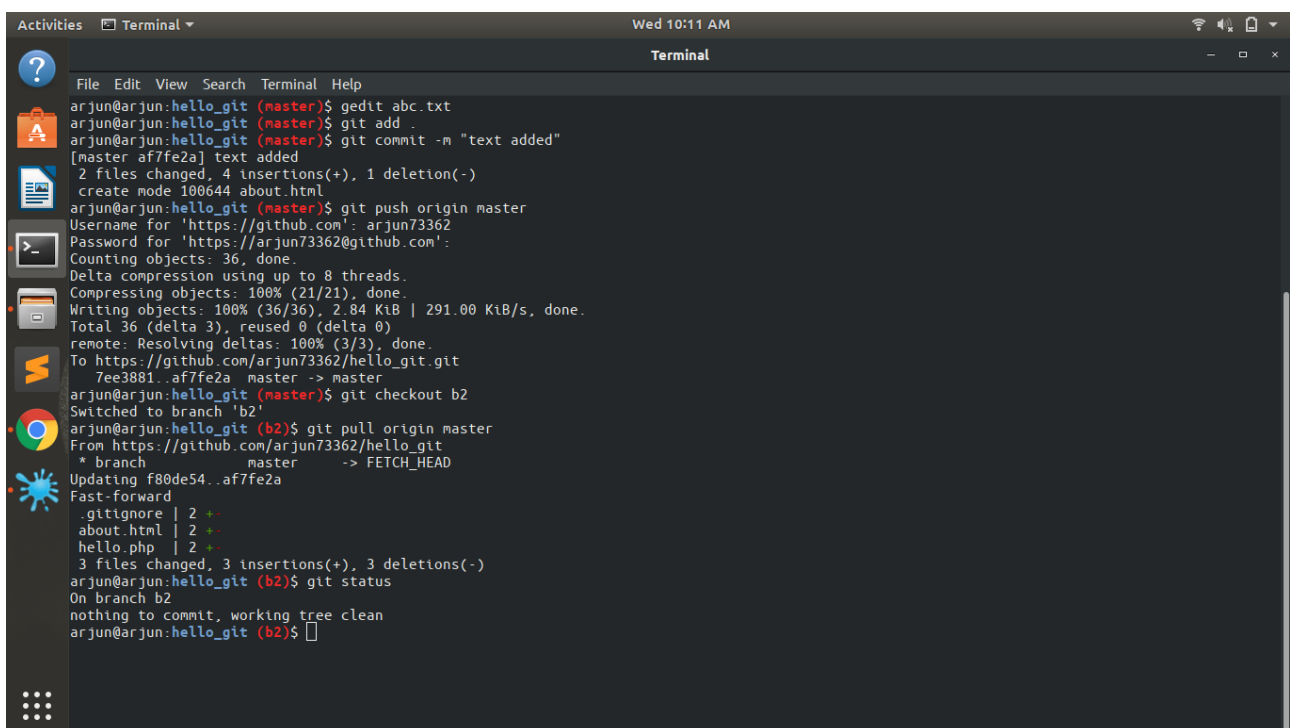
9.Clone the repository



A terminal window titled 'arjun@arjun: ~/repo' showing the process of cloning a repository. The user runs 'git clone https://github.com/arjun73362/assessments.git'. The output shows the cloning progress: enumerating objects, counting objects, compressing objects, and unpacking objects. After cloning, the user runs 'ls' to list the files in the directory, which shows 'abc.txt', 'assessments', 'form.html', 'html_css.pdf', 'table.html', and 'webpage.html'.

```
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$
```

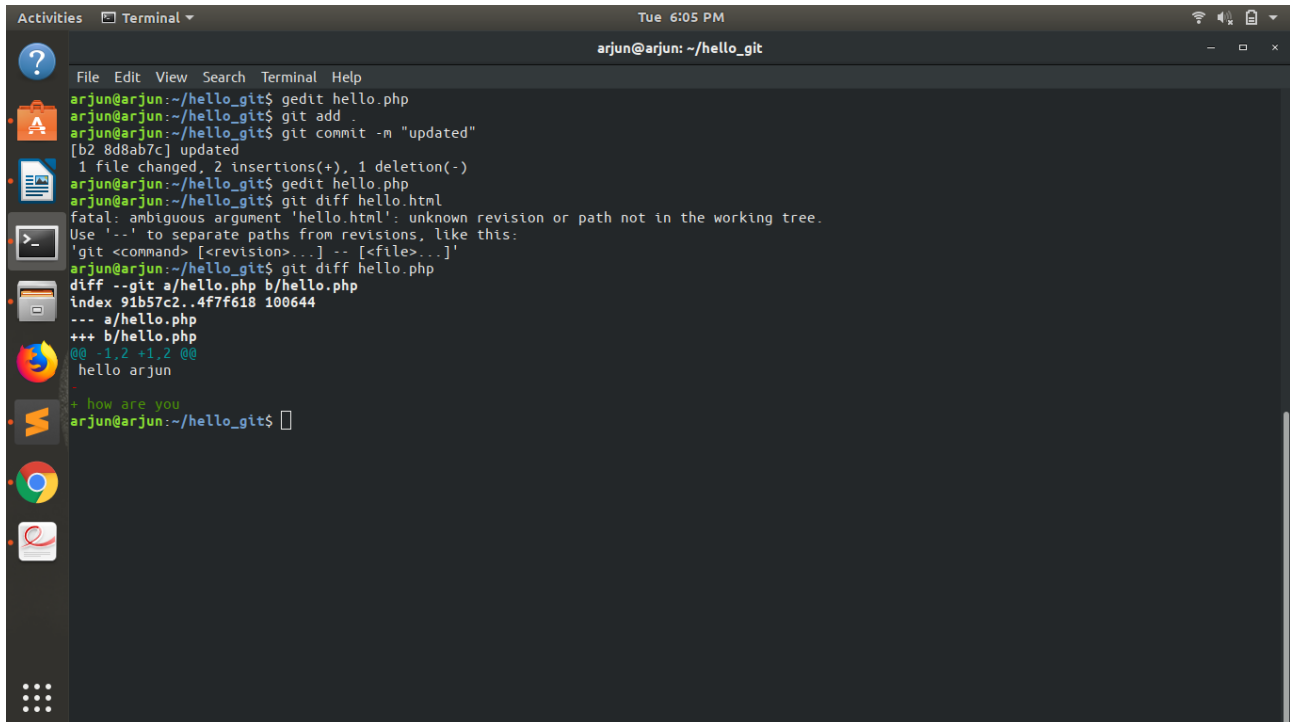
10.Add changes to one of the copies and pull the changes in the other.



A terminal window titled 'arjun@arjun: hello_git (master)' showing a series of git operations. The user creates a new file 'abc.txt', adds it to the repository, commits it with the message 'text added', and pushes it to the origin master. Then, the user checks out branch 'b2', pulls the latest changes from the origin master, and checks the status, which shows the working tree is clean.

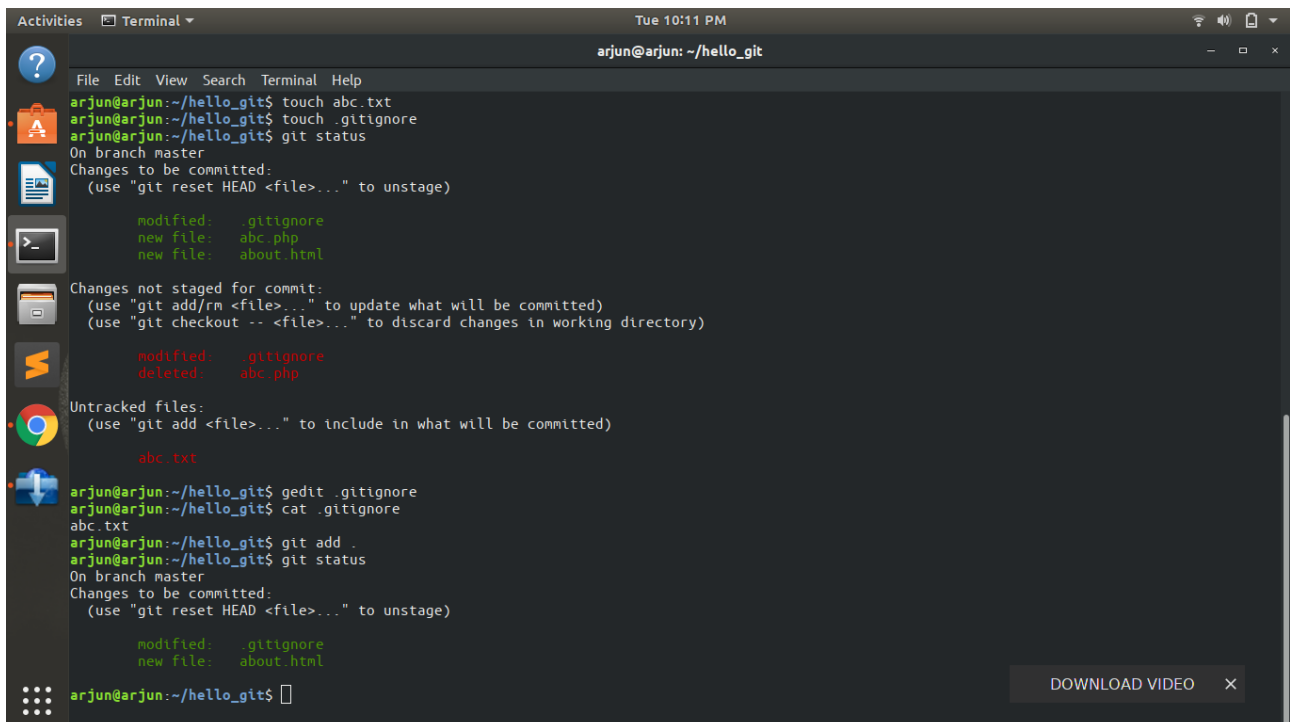
```
arjun@arjun:hello_git (master)$ gedit abc.txt
arjun@arjun:hello_git (master)$ git add .
arjun@arjun:hello_git (master)$ git commit -m "text added"
[master af7fe2a] text added
2 files changed, 4 insertions(+), 1 deletion(-)
create mode 100644 about.html
arjun@arjun:hello_git (master)$ git push origin master
Username for 'https://github.com': arjun73362
Password for 'https://arjun73362@github.com':
Counting objects: 36, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (21/21), done.
Writing objects: 100% (36/36), 2.84 KiB | 291.00 KiB/s, done.
Total 36 (delta 3), reused 0 (delta 0)
remote: Resolving deltas: 100% (3/3), done.
To https://github.com/arjun73362/hello_git.git
7ee3881..af7fe2a master -> master
arjun@arjun:hello_git (master)$ git checkout b2
Switched to branch 'b2'
arjun@arjun:hello_git (b2)$ git pull origin master
From https://github.com/arjun73362/hello_git
* branch      master       -> FETCH_HEAD
Updating f80de54..af7fe2a
Fast-forward
 .gitignore | 2 +-
 about.html | 2 +-
 hello.php  | 2 +-
3 files changed, 3 insertions(+), 3 deletions(-)
arjun@arjun:hello_git (b2)$ git status
On branch b2
nothing to commit, working tree clean
arjun@arjun:hello_git (b2)$
```

11. Check differences between a file and its staged version



```
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



```
arjun@arjun: ~/hello_git
File Edit View Search Terminal Help
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)

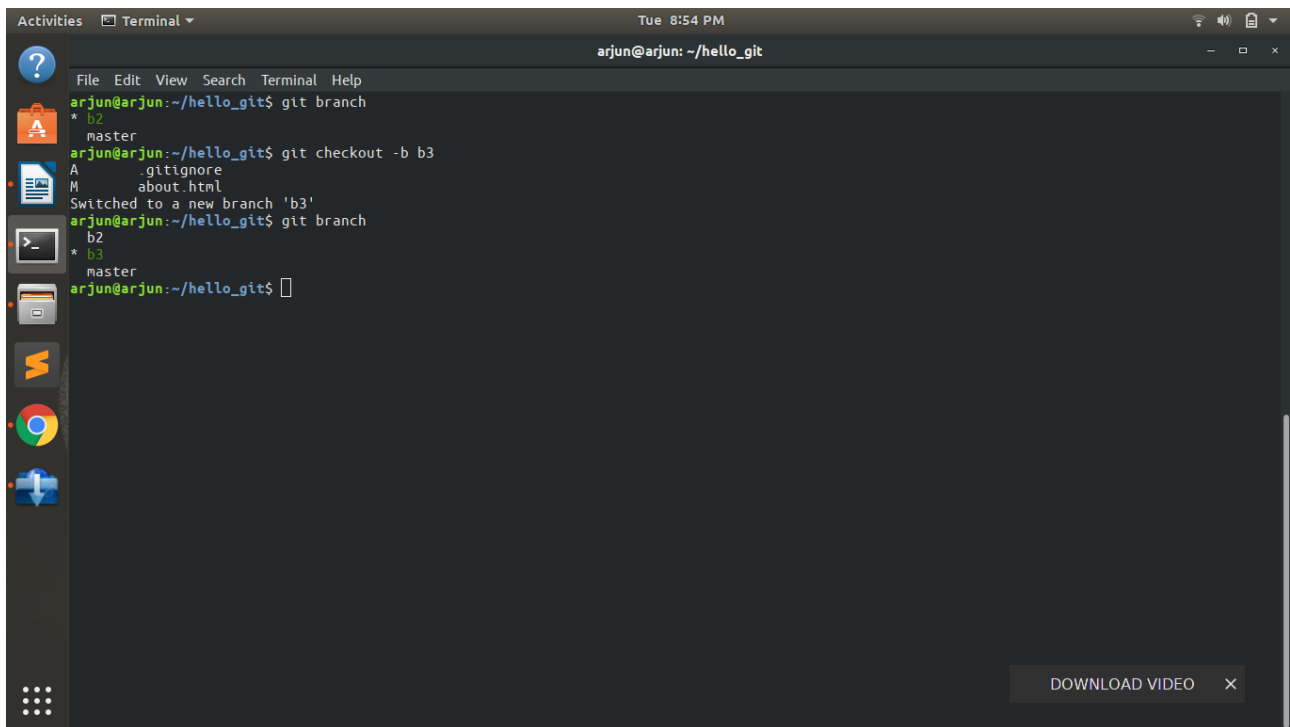
    abc.txt

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.

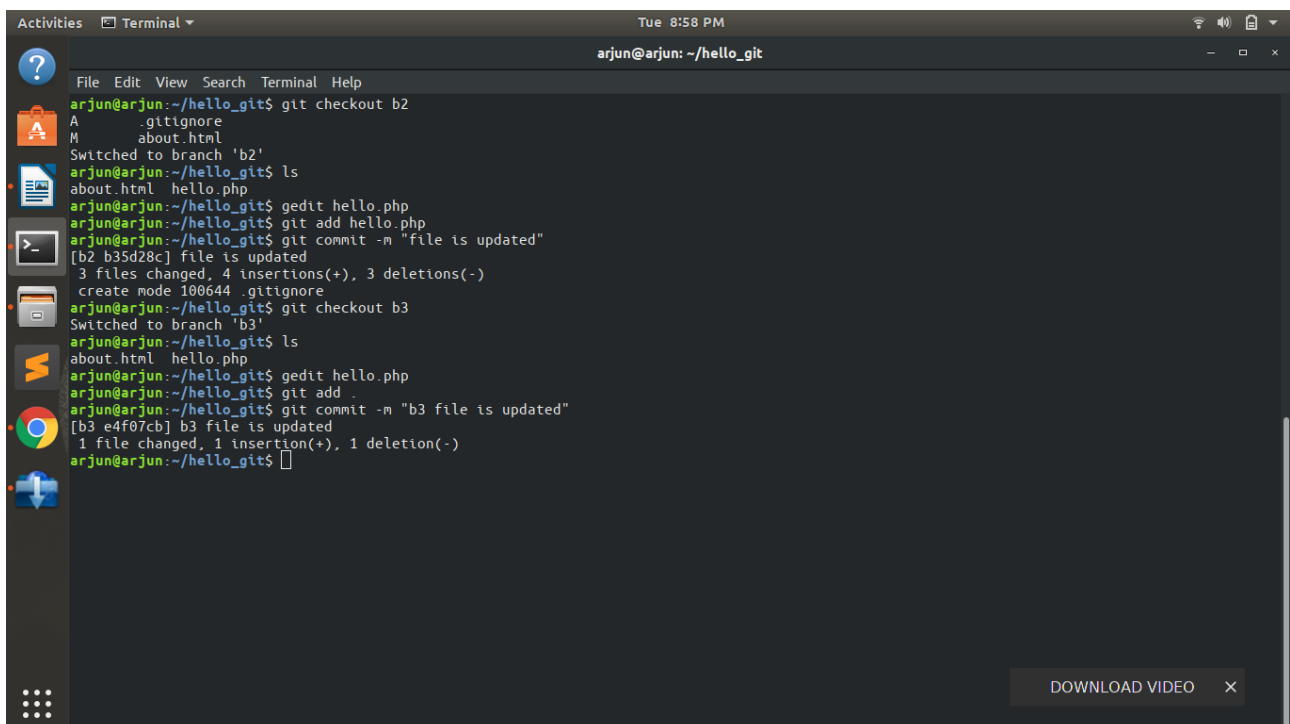


A terminal window titled 'arjun@arjun: ~/hello_git' showing the following commands and output:

```
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$
```

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14. Diverge them with commits

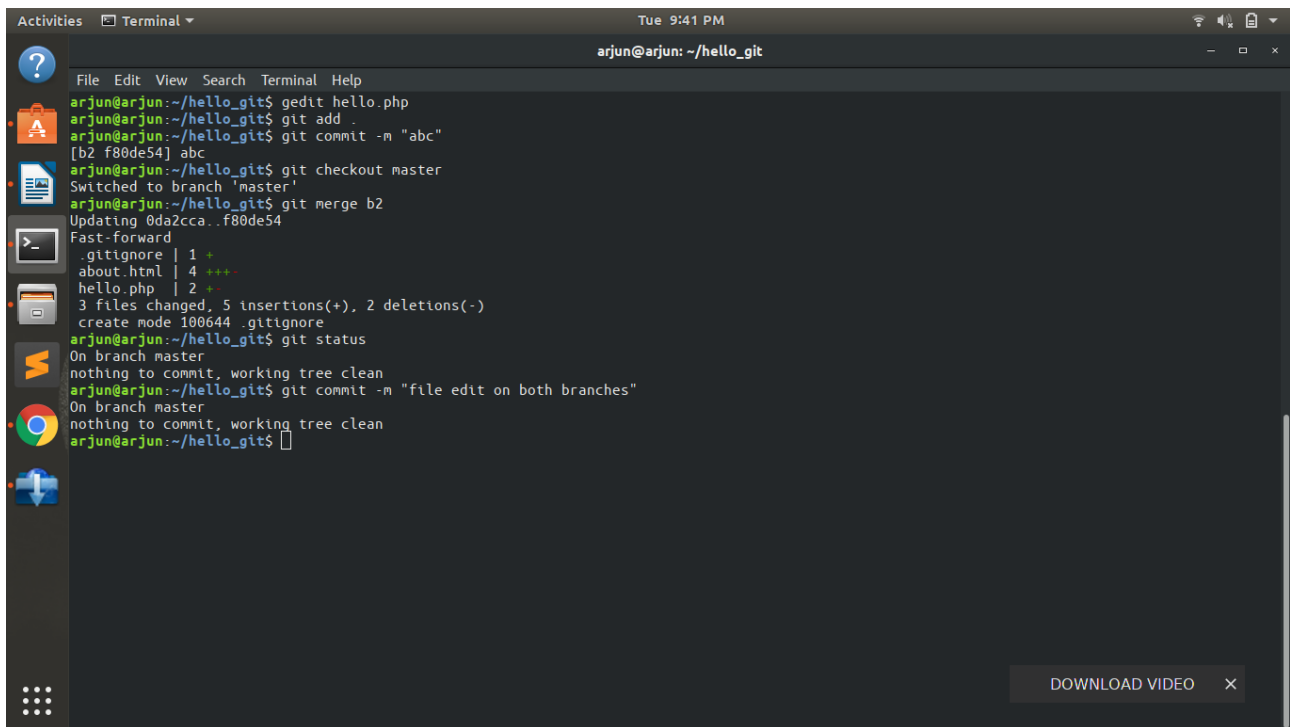


A terminal window titled 'arjun@arjun: ~/hello_git' showing the following commands and output:

```
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$
```

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

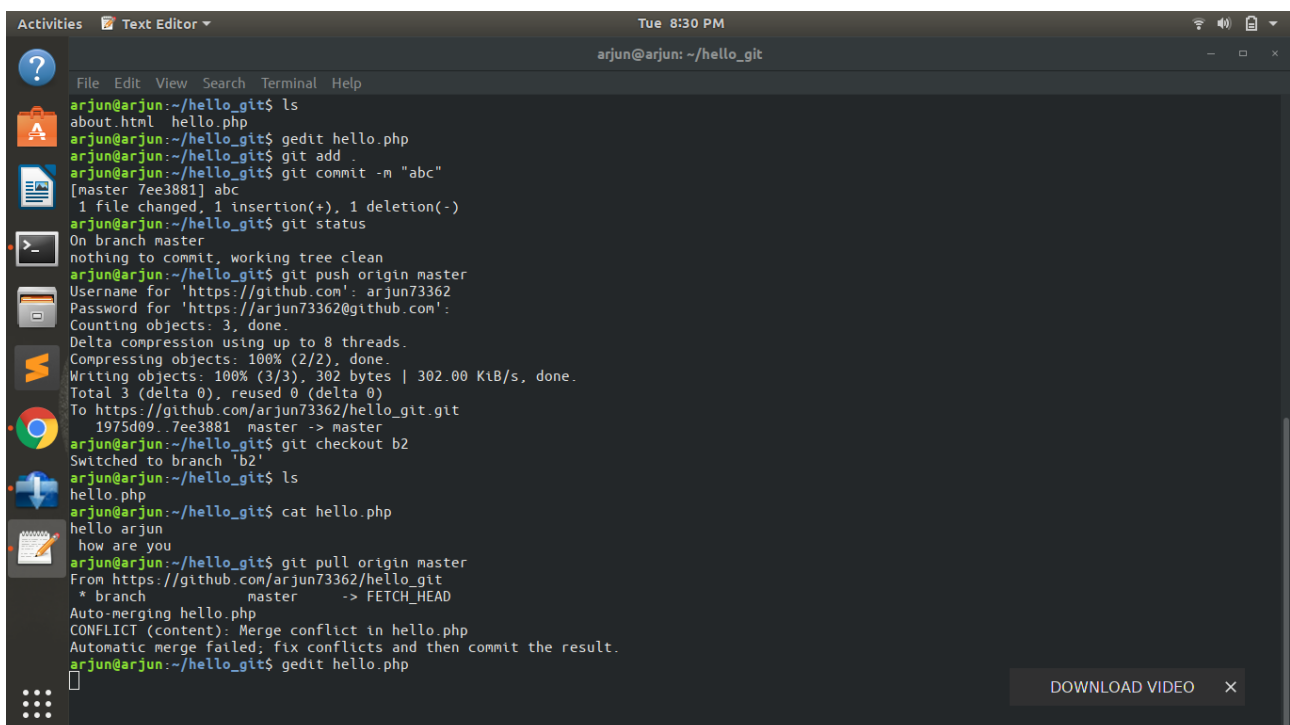


A terminal window titled 'arjun@arjun: ~/hello_git' showing the following commands and output:

```
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$
```

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16. Try merging and resolve merge conflicts



A terminal window titled 'arjun@arjun: ~/hello_git' showing the following commands and output:

```
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 Text Editor Tue 8:30 PM

hello.php
~/hello_git

Save

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

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PHP Tab Width: 8 Ln 3, Col 5 INS

Activities Terminal Tue 8:33 PM

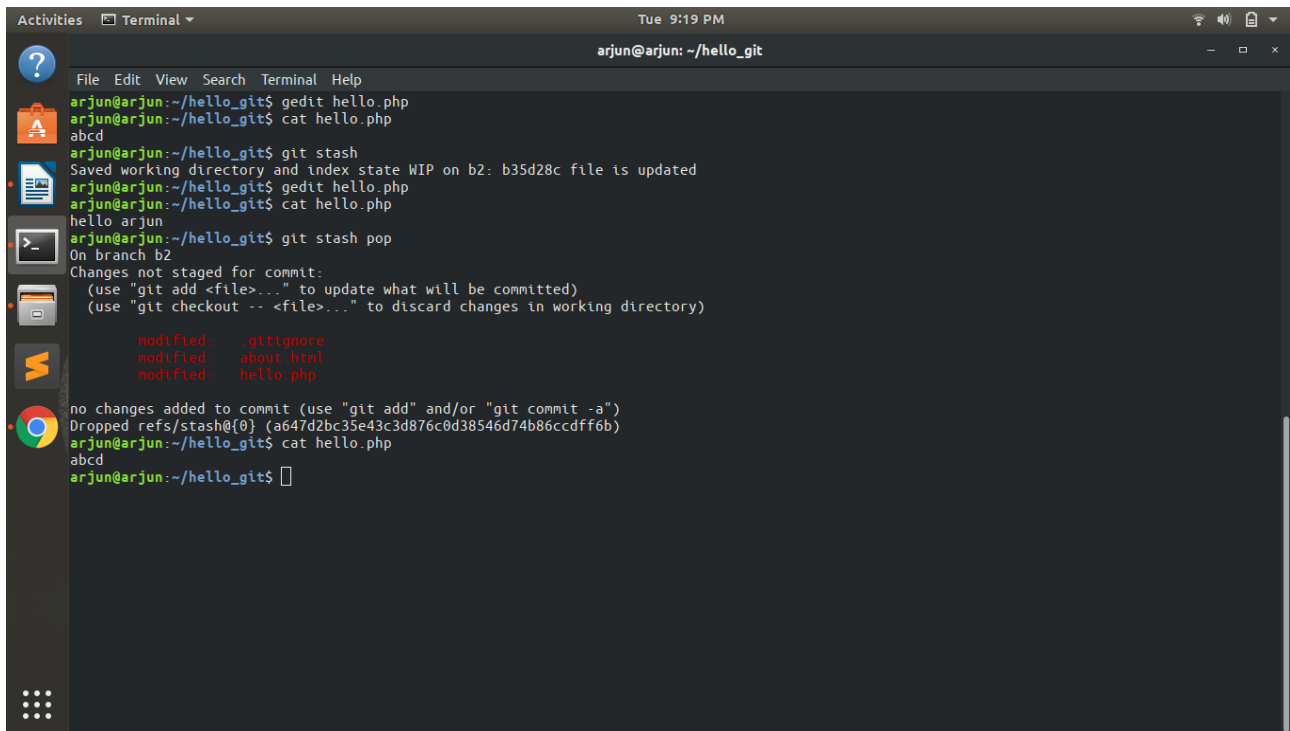
arjun@arjun: ~/hello_git

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 doin
arjun@arjun:~/hello_git$
```

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17. Stash the changes and pop them



A terminal window titled "arjun@arjun: ~/hello_git" showing a sequence of git commands. The user first creates a file 'hello.php' with 'abcd' content, then uses 'git stash' to save the state. After editing the file to 'hello arjun', they use 'git stash pop' to restore the original state. The terminal output shows the stash operation details, including the commit hash 'b35d28c' and the files affected. Finally, they verify the file content is back to 'abcd'.

```
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
```

