Assignment 2 (Version Control)

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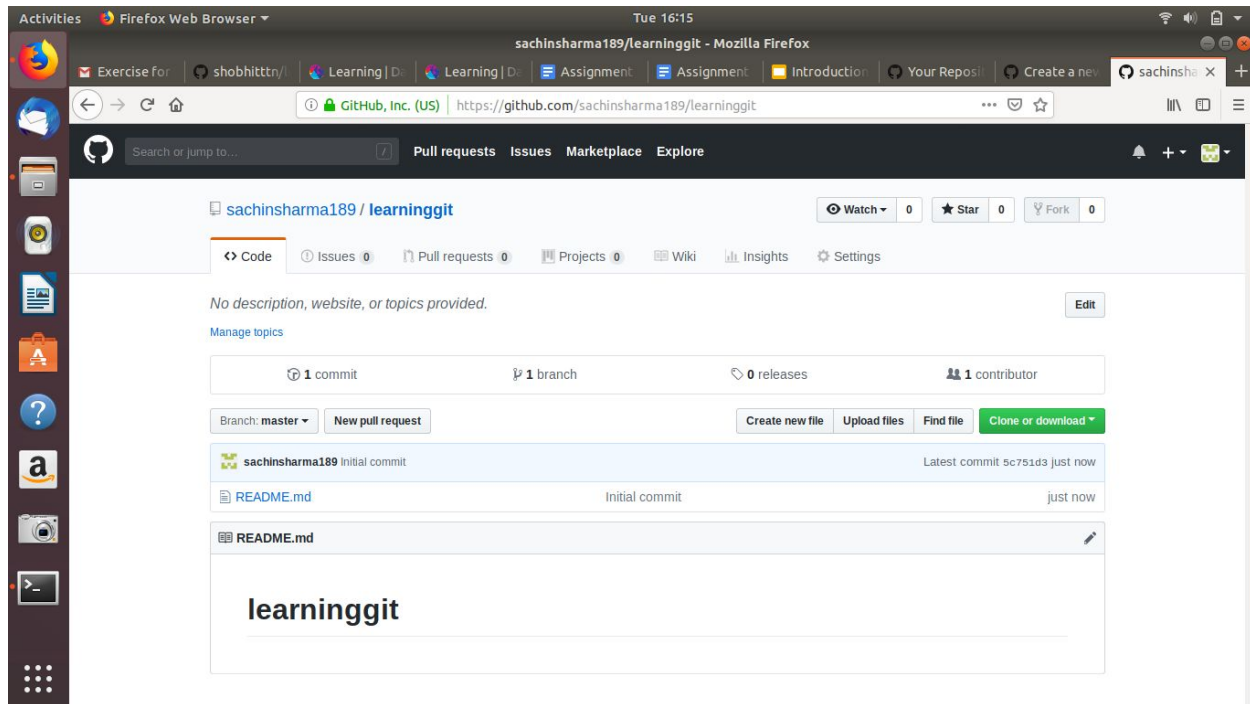
Screenshot

```
ttn@ttn:~$ sudo apt install git
Reading package lists... Done
Building dependency tree
Reading state information... Done
git is already the newest version (1:2.17.1-1ubuntu0.4).
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.
ttn@ttn:~$ git --version
git version 2.17.1
ttn@ttn:~$ 
```

2. Initialize a Git Repository

Screenshot

```
ttn@ttn:~$ cd Desktop
ttn@ttn:~/Desktop$ mkdir learninggit
ttn@ttn:~/Desktop$ cd learninggit
ttn@ttn:~/Desktop/learninggit$ git init
Initialized empty Git repository in /home/ttn/Desktop/learninggit/.git/
ttn@ttn:~/Desktop/learninggit$ git remote add origin git@github.com:sachinsharma
189/learninggit
ttn@ttn:~/Desktop/learninggit$ 
```

3. Add files to the repository

Screenshot

4. Unstage 1 file

Screenshot

```
ttn@ttn:~/learninggit$ git rm --cached file1
rm 'file1'
ttn@ttn:~/learninggit$ git status
On branch master
Your branch is up to date with 'origin/master'.

Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        deleted:    file1

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

        file1

ttn@ttn:~/learninggit$
```

5. Commit the file

Screenshot

```
ttn@ttn:~/learninggit$ git add file1
ttn@ttn:~/learninggit$ git commit -m "Commiting again"
[master 2e57cee] Commiting again
 1 file changed, 1 insertion(+)
ttn@ttn:~/learninggit$
```

6. Add a remote

Screenshot

```
ttn@ttn:~$ cd Desktop
ttn@ttn:~/Desktop$ mkdir learninggit
ttn@ttn:~/Desktop$ cd learninggit
ttn@ttn:~/Desktop/learninggit$ git init
Initialized empty Git repository in /home/ttn/Desktop/learninggit/.git/
ttn@ttn:~/Desktop/learninggit$ git remote add origin git@github.com:sachinsharma
189/learninggit
ttn@ttn:~/Desktop/learninggit$
```

7.Undo changes to a particular file

Screenshot

```
ttn@ttn:~/learninggit$ touch sachin.txt
ttn@ttn:~/learninggit$ vi sachin.txt
ttn@ttn:~/learninggit$ git add .
ttn@ttn:~/learninggit$ git commit -m "Commiting again by creating new file"
[master 7454dbe] Commiting again by creating new file
 1 file changed, 2 insertions(+)
 create mode 100644 sachin.txt
ttn@ttn:~/learninggit$ git revert HEAD-0
fatal: bad revision 'HEAD-0'
ttn@ttn:~/learninggit$ git revert HEAD~0
[master c3c48df] Revert "Commiting again by creating new file"
 1 file changed, 2 deletions(-)
 delete mode 100644 sachin.txt
ttn@ttn:~/learninggit$
```

8. Push changes to Github

Screenshot

```
ttn@ttn:~/learninggit$ git push origin master
Counting objects: 7, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (5/5), done.
Writing objects: 100% (7/7), 692 bytes | 692.00 KiB/s, done.
Total 7 (delta 2), reused 0 (delta 0)
remote: Resolving deltas: 100% (2/2), done.
To github.com:sachinsharma189/learninggit.git
   cc1bc31..c3c48df  master -> master
```

9.Clone the repository

Screenshot

```
ttn@ttn:~$ mkdir learninggitagain
ttn@ttn:~$ cd learninggitagain
ttn@ttn:~/learninggitagain$ git init
Initialized empty Git repository in /home/ttn/learninggitagain/.git/
ttn@ttn:~/learninggitagain$ git remote add origin https://github.com/sachinsharm
a189/learninggitagain
ttn@ttn:~/learninggitagain$ git clone https://github.com/sachinsharma189/learnin
ggit.git
Cloning into 'learninggit'...
remote: Enumerating objects: 15, done.
remote: Counting objects: 100% (15/15), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 15 (delta 3), reused 11 (delta 2), pack-reused 0
Unpacking objects: 100% (15/15), done.
ttn@ttn:~/learninggitagain$
```

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

Screenshot

```
ttn@ttn:~/learninggit$ touch testfile
ttn@ttn:~/learninggit$ vi testfile
ttn@ttn:~/learninggit$ git add testfile
ttn@ttn:~/learninggit$ git commit -m "Making Changes"
[master 4e41d32] Making Changes
 1 file changed, 1 insertion(+)
 create mode 100644 testfile
ttn@ttn:~/learninggit$ git push origin master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 293 bytes | 293.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:sachinsharma189/learninggit.git
   c3c48df..4e41d32  master -> master
ttn@ttn:~/learninggit$ cd ..
ttn@ttn:~$ cd ~/learninggitagain
ttn@ttn:~/learninggitagain$ git pull origin master
```

11. Check differences between a file and its staged version

Screenshot

```
ttn@ttn:~/learninggit$ git diff
diff --git a/file1 b/file1
index 6ad5c56..fe2d74a 100644
--- a/file1
+++ b/file1
@@ -1,3 +1,2 @@
-Tetsing
-
-Making some changes
+Tetsing in test
+Making some other changes
```

12. Ignore a few files to be checked in

```
ttn@ttn:~/learninggit$ touch file4
ttn@ttn:~/learninggit$ vi .gitignore
ttn@ttn:~/learninggit$ git status
On branch master
Your branch is ahead of 'origin/master' by 3 commits.
  (use "git push" to publish your local commits)

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

        modified:   file1

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

        .gitignore
        file4

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

13. Create a new branch.

Screenshot

```
ttn@ttn:~/learninggit$ git checkout -b test
Switched to a new branch 'test'
ttn@ttn:~/learninggit$ git branch
  master
* test
ttn@ttn:~/learninggit$
```

14. Diverge them with commits

Screenshot

```
ttn@ttn:~/learninggit$ git branch
  master
* test
ttn@ttn:~/learninggit$ ls -l
total 12
-rw-r--r-- 1 ttn ttn  8 Feb  5 17:32 file1
-rw-r--r-- 1 ttn ttn  0 Feb  5 17:10 file2
-rw-r--r-- 1 ttn ttn 13 Feb  5 17:05 README.md
-rw-r--r-- 1 ttn ttn 20 Feb  5 23:33 testfile
ttn@ttn:~/learninggit$ touch file3
ttn@ttn:~/learninggit$ git add file3
ttn@ttn:~/learninggit$ git commit -m "New File Commit"
[test 9b632ff] New File Commit
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 file3
ttn@ttn:~/learninggit$ ls - l
ls: cannot access '-': No such file or directory
ls: cannot access 'l': No such file or directory
ttn@ttn:~/learninggit$ ls -l
total 12
-rw-r--r-- 1 ttn ttn  8 Feb  5 17:32 file1
-rw-r--r-- 1 ttn ttn  0 Feb  5 17:10 file2
-rw-r--r-- 1 ttn ttn  0 Feb  6 00:34 file3
-rw-r--r-- 1 ttn ttn 13 Feb  5 17:05 README.md
-rw-r--r-- 1 ttn ttn 20 Feb  5 23:33 testfile
ttn@ttn:~/learninggit$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
ttn@ttn:~/learninggit$ ls -l
total 12
-rw-r--r-- 1 ttn ttn  8 Feb  5 17:32 file1
-rw-r--r-- 1 ttn ttn  0 Feb  5 17:10 file2
-rw-r--r-- 1 ttn ttn 13 Feb  5 17:05 README.md
-rw-r--r-- 1 ttn ttn 20 Feb  5 23:33 testfile
ttn@ttn:~/learninggit$
```

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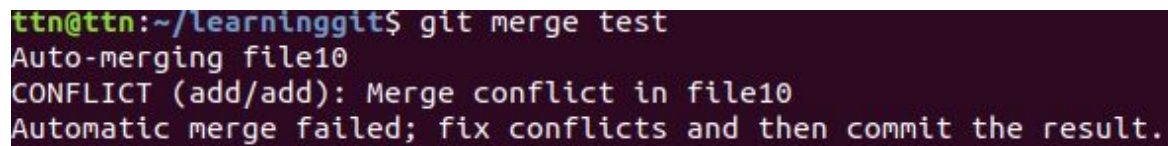
Screenshot

```
ttn@ttn:~/learninggit$ git checkout test
M       file1
Switched to branch 'test'
ttn@ttn:~/learninggit$ vi file10
ttn@ttn:~/learninggit$ git add file10
ttn@ttn:~/learninggit$ git commit -m "Commiting file10"
[test 16041ae] Commiting file10
 1 file changed, 1 insertion(+)
 create mode 100644 file10
ttn@ttn:~/learninggit$ git push origin test
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 497 bytes | 497.00 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:sachinsharma189/learninggit.git
```

```
Switched to branch 'develop'
ttn@ttn:~/learninggit$ vi file10
ttn@ttn:~/learninggit$ git add file10
ttn@ttn:~/learninggit$ git commit -m "Commiting file 10 from other branch"
[develop 89a479b] Commiting file 10 from other branch
 1 file changed, 1 insertion(+)
 create mode 100644 file10
ttn@ttn:~/learninggit$ git push origin develop
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 311 bytes | 311.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'develop' on GitHub by visiting:
remote:      https://github.com/sachinsharma189/learninggit/pull/new/develop
remote:
To github.com:sachinsharma189/learninggit.git
 * [new branch]      develop -> develop
```

16. Try merging and resolve merge conflicts

Screenshot


```
ttn@ttn:~/learninggit$ git merge test
Auto-merging file10
CONFLICT (add/add): Merge conflict in file10
Automatic merge failed; fix conflicts and then commit the result.
```

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

Screenshot

```
# match all files and zero or more directories and subdirectories.
#shopt -s globstar

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)\[
3[00m\]\$ '
else
PS1='\u@\h:\W $(parse_git_branch)\$ '
fi
unset color_prompt force_color_prompt


# make less more friendly for non-text input files, see lesspipe(1)
[ -x /usr/bin/lesspipe ] && eval "$(SHELL=/bin/sh lesspipe)"
```

```
ttn@ttn:~/learninggit$ vi ~/.bashrc
ttn@ttn:~/learninggit$
```