

Version Control System setup and usage using GIT

Quarantine Assignments

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April 2020

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1 Aim

1. Creating a repository
2. Checking out a repository
3. Adding content to the repository
4. Committing the data to a repository
5. Updating the local copy
6. Comparing different revisions
7. Revert
8. Conflicts and a conflict Resolution

2 Source Code

Initializing a repository:

```
git init
```

Adding and Committing:

```
git add .  
git commit -m <commit message>
```

Comparing Different Revisions:

```
git diff HEAD <file name>
```

Reverting Changes:

```
git revert HEAD
```

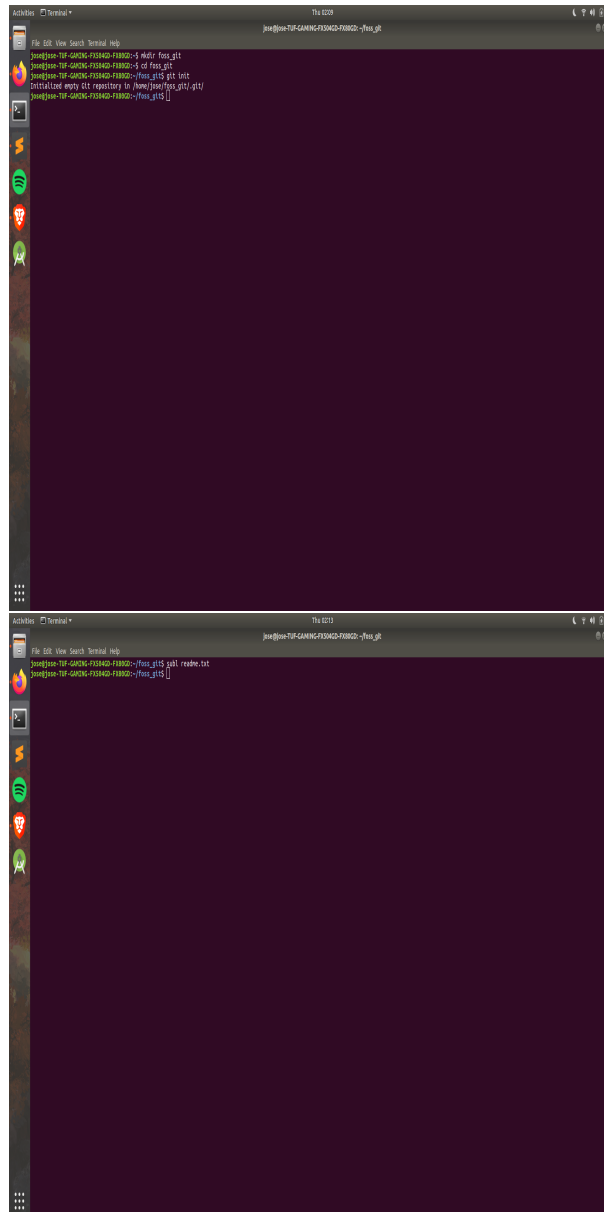
Branching:

```
git branch <branch name>
```

Merging:

```
git merge <branch name>
```

3 Samples



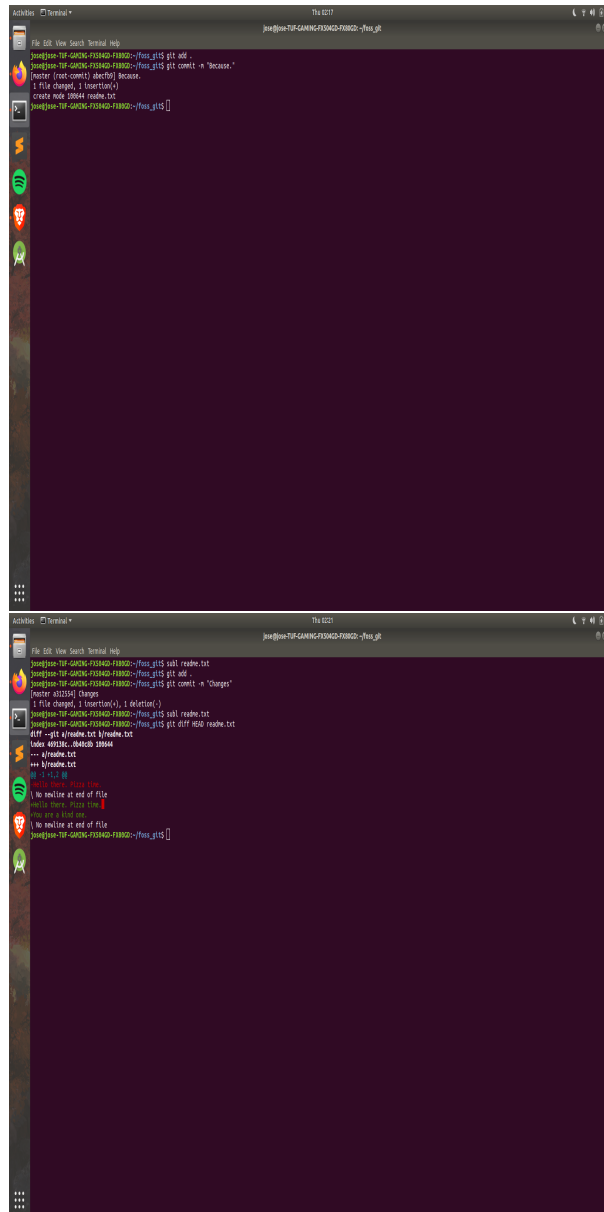
The image displays two screenshots of a terminal window, likely a Linux environment, showing the execution of Git commands. The terminal has a dark background with a light-colored prompt and output text.

Top Screenshot:

```
jon@jon-TUF-GAMING-P15442D-P1802D:~$ cd /home/jon/.git/
jon@jon-TUF-GAMING-P15442D-P1802D:~$ git init
Initialized empty Git repository in /home/jon/.git/
```

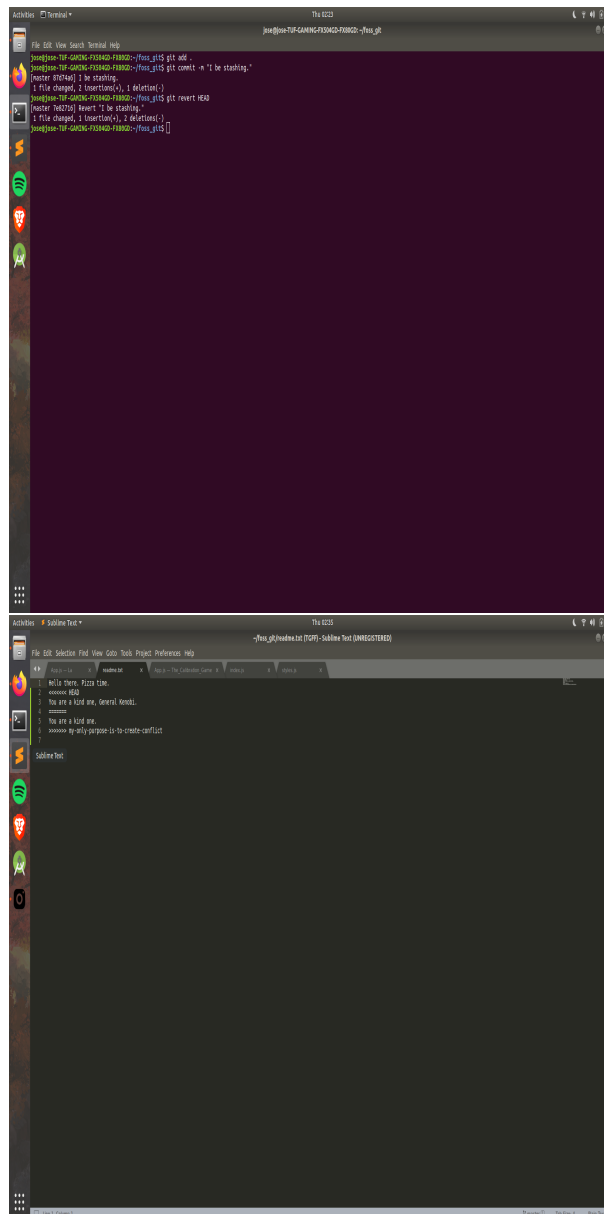
Bottom Screenshot:

```
jon@jon-TUF-GAMING-P15442D-P1802D:~$ git add README.txt
jon@jon-TUF-GAMING-P15442D-P1802D:~$ git commit -m 'first commit'
```



```
Arjun@TUF-GANING-F33442D-F3382D:~/flux_git$ git add .
Arjun@TUF-GANING-F33442D-F3382D:~/flux_git$ git commit -m "because"
[master (root-commit) 8ac296] because
1 file changed, 1 insertion(+)
create mode 100644 readme.txt
Arjun@TUF-GANING-F33442D-F3382D:~/flux_git$

Arjun@TUF-GANING-F33442D-F3382D:~/flux_git$ git diff HEAD
diff --git a/readme.txt b/readme.txt
index 8ac296c..8b46c3b 100644
--- a/readme.txt
+++ b/readme.txt
@@ -1,3 @@
-Hello World!
+Hello World!
+
+No newline at end of file
Arjun@TUF-GANING-F33442D-F3382D:~/flux_git$
```



```

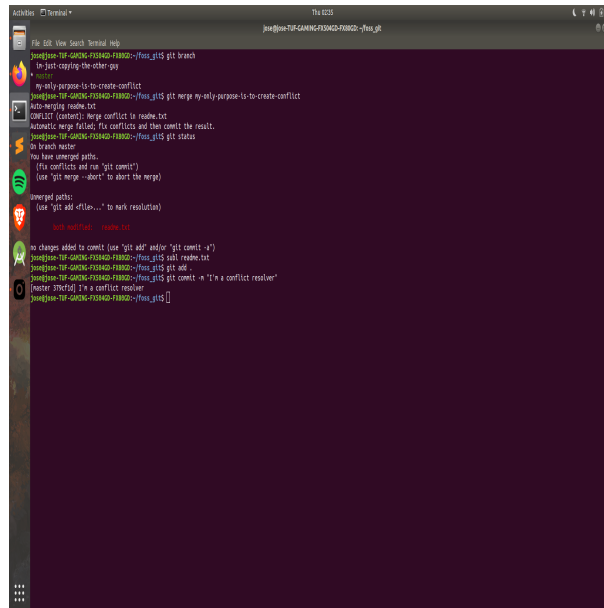
jose@jose-TUF-GAMING-P1640G-P1800D:~$ git add .
jose@jose-TUF-GAMING-P1640G-P1800D:~$ git commit -m "1st commit"
[master 92b1b4d] 1st commit
1 file changed, 1 insertion(+), 1 deletion(-)
jose@jose-TUF-GAMING-P1640G-P1800D:~$ git revert HEAD
[master 92b1b4d] Revert "1st commit"
1 file changed, 1 insertion(+), 1 deletion(-)
jose@jose-TUF-GAMING-P1640G-P1800D:~$ git add .
jose@jose-TUF-GAMING-P1640G-P1800D:~$ git commit -m "2nd commit"
[master 92b1b4d] 2nd commit
1 file changed, 1 insertion(+), 1 deletion(-)

```

```

jose@jose-TUF-GAMING-P1640G-P1800D:~$ git add .
jose@jose-TUF-GAMING-P1640G-P1800D:~$ git commit -m "2nd commit"
[master 92b1b4d] 2nd commit
1 file changed, 1 insertion(+), 1 deletion(-)

```



```

jose@jose-TUF-GAMING-PS0402-P30402:~$ git branch
* (root)
jose@jose-TUF-GAMING-PS0402-P30402:~$ git merge my-only-purpose-is-to-create-conflict
Automatic merge failed; fix conflicts and then commit the result.
jose@jose-TUF-GAMING-PS0402-P30402:~$ git status
On branch master
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:   readme.txt

no changes added to commit (use 'git add' and/or 'git commit -a')
jose@jose-TUF-GAMING-PS0402-P30402:~$ git add readme.txt
jose@jose-TUF-GAMING-PS0402-P30402:~$ git commit -m "I'm a conflict resolver"
master 39c4f4d I'm a conflict resolver
jose@jose-TUF-GAMING-PS0402-P30402:~$ git

```

4 Result

Repositories were initialized, branches were made, and conflicts were resolved. All this, and more, on Ubuntu 18.04.3 LTS.