

Name : Vineet Rathi

Employ Id : 6627

Version Control Assignment

1. Git Setup

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

```
vineet@vineet:~/Desktop$ git version
git version 2.25.1
vineet@vineet:~/Desktop$
```

2. Initialize a Git Repository

```
vineet@vineet:~/Desktop$ git init
Initialized empty Git repository in /home/vineet/Desktop/.git/
vineet@vineet:~/Desktop$
```

3. Add files to the repository

```
vineet@vineet:~/Desktop/assignments$ ls
a.txt  b.txt
vineet@vineet:~/Desktop/assignments$ git add .
vineet@vineet:~/Desktop/assignments$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   a.txt
        new file:   b.txt
vineet@vineet:~/Desktop/assignments$
```

4. Unstage 1 file

```
vineet@vineet:~/Desktop/assignments$ git rm --cached a.txt
rm 'a.txt'
vineet@vineet:~/Desktop/assignments$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    deleted:    a.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    a.txt
    d.txt
    myRepo/
    myRepo1/

vineet@vineet:~/Desktop/assignments$
```

5. Commit the file

```
vineet@vineet:~/Desktop/assignments$ git commit -m "Initial commit"
[main bb2c6d7] Initial commit
1 file changed, 0 insertions(+), 0 deletions(-)
delete mode 100644 a.txt
vineet@vineet:~/Desktop/assignments$ git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    a.txt
    d.txt
    myRepo/
    myRepo1/

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

6. Add a remote

```
vineet@vineet:~/Desktop/assignments$ git remote add origin https://github.com/vi
neetrathi00/myRepo.git
vineet@vineet:~/Desktop/assignments$
```

7. Undo changes to a particular file

```
vineet@vineet:~/Desktop/assignments$ touch c.txt
vineet@vineet:~/Desktop/assignments$ cat c.txt
vineet@vineet:~/Desktop/assignments$ git add
Nothing specified, nothing added.
Maybe you wanted to say 'git add .'
vineet@vineet:~/Desktop/assignments$ git add .
vineet@vineet:~/Desktop/assignments$ git commit -m "created file c.txt"
[master 70bcd53] created file c.txt
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 c.txt
vineet@vineet:~/Desktop/assignments$ git log
commit 70bcd53c0eaa0b69699d4f23c1a34a3cd525388c (HEAD -> master)
Author: vineet <vineet.rathi@tothenew.com>
Date: Thu Sep 22 11:42:26 2022 +0530

    created file c.txt

commit dd42bde3e7ac0fc84e42165edea9913914431376
Author: vineet <vineet.rathi@tothenew.com>
Date: Thu Sep 22 11:34:05 2022 +0530

    Initial commit

commit 3e8eae382ff4ada7cf63222d8329de199455cfe1
Author: vineet <vineet.rathi@tothenew.com>
Date: Thu Sep 22 09:48:31 2022 +0530

    added
vineet@vineet:~/Desktop/assignments$ echo "new text" > c.txt
vineet@vineet:~/Desktop/assignments$ cat c.txt
new text
vineet@vineet:~/Desktop/assignments$ git add .
vineet@vineet:~/Desktop/assignments$ git commit -m "Added text to c.txt"
[master 78a81d2] Added text to c.txt
1 file changed, 1 insertion(+)
```

```
vineet@vineet:~/Desktop/assignments$ git log
commit 78a81d26bb26c1a8e902158f66c7b9495140a7a5 (HEAD -> master)
Author: vineet <vineet.rathi@tothenew.com>
Date: Thu Sep 22 11:44:07 2022 +0530
```

Added text to c.txt

```
commit 70bcd53c0eaa0b69699d4f23c1a34a3cd525388c
Author: vineet <vineet.rathi@tothenew.com>
Date: Thu Sep 22 11:42:26 2022 +0530
```

created file c.txt

```
commit dd42bde3e7ac0fc84e42165edea9913914431376
Author: vineet <vineet.rathi@tothenew.com>
Date: Thu Sep 22 11:34:05 2022 +0530
```

Initial commit

```
commit 3e8eae382ff4ada7cf63222d8329de199455cfe1
Author: vineet <vineet.rathi@tothenew.com>
Date: Thu Sep 22 09:48:31 2022 +0530
```

aded

```
[1]+ Stopped git log
vineet@vineet:~/Desktop/assignments$ cat c.txt
new text
vineet@vineet:~/Desktop/assignments$
```

```
vineet@vineet:~/Desktop/assignments$ git reset --soft 70bcd53
vineet@vineet:~/Desktop/assignments$ git log --oneline
70bcd53 (HEAD -> master) created file c.txt
dd42bde Initial commit
3e8eae3 aded
vineet@vineet:~/Desktop/assignments$
```

8. Push changes to Github

```

vineet@TTNPL-6627:~/Github/Assignment$ touch version_control.txt
vineet@TTNPL-6627:~/Github/Assignment$ git init
Initialized empty Git repository in /home/vineet/Github/Assignment/.git/
vineet@TTNPL-6627:~/Github/Assignment$ git add .
vineet@TTNPL-6627:~/Github/Assignment$ git commit -m "initial commit"
[master (root-commit) 445fc7b] initial commit
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 version_control.txt
vineet@TTNPL-6627:~/Github/Assignment$ git branch -M main
vineet@TTNPL-6627:~/Github/Assignment$ git remote add origin https://github.com/RathiVineet/version.git
vineet@TTNPL-6627:~/Github/Assignment$ git push -u origin main
Username for 'https://github.com': RathiVineet
Password for 'https://RathiVineet@github.com':
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 229 bytes | 229.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/RathiVineet/version.git
 * [new branch]      main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
vineet@TTNPL-6627:~/Github/Assignment$ █

```

9. Clone the repository

```

vineet@vineet:~/Desktop/assignments$ git clone https://github.com/vineetrathio0/myRepo1.git
Cloning into 'myRepo1'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 592 bytes | 98.00 KiB/s, done.
vineet@vineet:~/Desktop/assignments$ █

```

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

```

vineet@TTNPL-6627:~/Github/version$ git push
Username for 'https://github.com': Rathivineet
Password for 'https://Rathivineet@github.com':
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 263 bytes | 263.00 KiB/s, done.
Total 2 (delta 0), reused 0 (delta 0)
To https://github.com/Rathivineet/version.git
 445fc7b..8a62367  main -> main
vineet@TTNPL-6627:~/Github/version$

```

```

vineet@TTNPL-6627:~/Github/Assignment$ git pull
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 2 (delta 0), reused 2 (delta 0), pack-reused 0
Unpacking objects: 100% (2/2), 243 bytes | 121.00 KiB/s, done
From https://github.com/Rathivineet/version
 445fc7b..8a62367  main      -> origin/main
Updating 445fc7b..8a62367
Fast-forward
 new_file.txt | 0
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 new_file.txt
vineet@TTNPL-6627:~/Github/Assignment$

```

11. Check differences between a file and its staged version

```

vineet@vineet:~/Desktop/assignments$ git diff HEAD b.txt
diff --git a/b.txt b/b.txt
index e69de29..190a180 100644
--- a/b.txt
+++ b/b.txt
@@ -0,0 +1 @@
+123
vineet@vineet:~/Desktop/assignments$

```

12. Ignore a few files to be checked in

```

vineet@TTNPL-6627:~/Github/version$ gedit .gitignore
vineet@TTNPL-6627:~/Github/version$ git add .
vineet@TTNPL-6627:~/Github/version$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   .gitignore

vineet@TTNPL-6627:~/Github/version$ █

```

13. Create a new branch.

```

vineet@vineet:~/Desktop/assignments$ git branch -a
* main
vineet@vineet:~/Desktop/assignments$ git branch dev
vineet@vineet:~/Desktop/assignments$ git checkout dev
M      b.txt
Switched to branch 'dev'
vineet@vineet:~/Desktop/assignments$ git branch -a
* dev
  main
vineet@vineet:~/Desktop/assignments$ █

```

14. Diverge them with commits

```

vineet@TTNPL-6627:~/Github/version$ git checkout -b newbranch
Switched to a new branch 'newbranch'
vineet@TTNPL-6627:~/Github/version$ git branch
  main
* newbranch
vineet@TTNPL-6627:~/Github/version$ touch file
vineet@TTNPL-6627:~/Github/version$ git add .
vineet@TTNPL-6627:~/Github/version$ git commit -m "initial commit"
[newbranch 9814fcf] initial commit
 2 files changed, 1 insertion(+)
 create mode 100644 .gitignore
 create mode 100644 file
vineet@TTNPL-6627:~/Github/version$ █

```

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

```
vineet@TTNPL-6627:~/Github/version$ git add .
vineet@TTNPL-6627:~/Github/version$ git commit -m "added 222"
[newbranch2 c066fee] added 222
1 file changed, 1 insertion(+), 1 deletion(-)
vineet@TTNPL-6627:~/Github/version$ git checkout newbranch
Switched to branch 'newbranch'
vineet@TTNPL-6627:~/Github/version$ git add .
vineet@TTNPL-6627:~/Github/version$ git commit -m "added333"
[newbranch a090cd7] added333
1 file changed, 1 insertion(+), 1 deletion(-)
vineet@TTNPL-6627:~/Github/version$ git merge newbranch2
Auto-merging file
CONFLICT (content): Merge conflict in file
Automatic merge failed; fix conflicts and then commit the result.
vineet@TTNPL-6627:~/Github/version$
```

16. Try merging and resolve merge conflicts

```
vineet@TTNPL-6627:~/Github/version$ git add .
vineet@TTNPL-6627:~/Github/version$ git commit -m "added 222"
[newbranch2 c066fee] added 222
1 file changed, 1 insertion(+), 1 deletion(-)
vineet@TTNPL-6627:~/Github/version$ git checkout newbranch
Switched to branch 'newbranch'
vineet@TTNPL-6627:~/Github/version$ git add .
vineet@TTNPL-6627:~/Github/version$ git commit -m "added333"
[newbranch a090cd7] added333
1 file changed, 1 insertion(+), 1 deletion(-)
vineet@TTNPL-6627:~/Github/version$ git merge newbranch2
Auto-merging file
CONFLICT (content): Merge conflict in file
Automatic merge failed; fix conflicts and then commit the result.
vineet@TTNPL-6627:~/Github/version$
```


17. Stash the changes and pop them

```
vineet@TTNPL-6627:~/Github/version$ git stash
Saved working directory and index state WIP on stashBranch: 8a62367 Initial commit
vineet@TTNPL-6627:~/Github/version$ git status
On branch stashBranch
nothing to commit, working tree clean
vineet@TTNPL-6627:~/Github/version$ git stash pop
On branch stashBranch
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   ignore
    new file:   newFile1

Dropped refs/stash@{0} (236b377eda533ce404230bf955045c7c159ec042)
vineet@TTNPL-6627:~/Github/version$
```