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

```
sandeep@Sandeep-Verma:~$ git --version
git version 2.17.1
sandeep@Sandeep-Verma:~$
```

```
sandeep@Sandeep-Verma:~$ git config --global user.name  Micky-op
sandeep@Sandeep-Verma:~$ git config --global user.email sandeep.verma2@tothenew.com
```

2. Initialize a Git Repository

```
sandeep@Sandeep-Verma:~/version_control$ git init
Reinitialized existing Git repository in /home/sandeep/version_control/.git/
sandeep@Sandeep-Verma:~/version_control$ ll
total 16
drwxr-xr-x  3 sandeep sandeep 4096 Feb  4 21:42 ./
drwxr-xr-x 19 sandeep sandeep 4096 Feb  4 21:24 ../
drwxr-xr-x  7 sandeep sandeep 4096 Feb  4 21:42 .git/
-rw-r--r--  1 sandeep sandeep   50 Feb  4 21:42 new_file
```

3. Add files to the repository

```
sandeep@Sandeep-Verma:~/version_control$ git add new_file
sandeep@Sandeep-Verma:~/version_control$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)

        new file:   new_file

sandeep@Sandeep-Verma:~/version_control$ git commit -m "REady to submit"
[master (root-commit) 09d658e] REady to submit
 1 file changed, 3 insertions(+)
 create mode 100644 new_file
sandeep@Sandeep-Verma:~/version_control$ git remote add origin https://github.com/Micky-op/xyz.git
sandeep@Sandeep-Verma:~/version_control$ git push -u origin master
Username for 'https://github.com': Micky-op
Password for 'https://Micky-op@github.com':
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 267 bytes | 267.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/Micky-op/xyz.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
sandeep@Sandeep-Verma:~/version_control$
```

4. Unstage 1 file

```
sandeep@Sandeep-Verma:~/version_control$ git add new
sandeep@Sandeep-Verma:~/version_control$ 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)

        new file:    new

sandeep@Sandeep-Verma:~/version_control$ git reset new
sandeep@Sandeep-Verma:~/version_control$ git status
On branch master
Your branch is up to date with 'origin/master'.

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

        new

nothing added to commit but untracked files present (use "git add" to track)
sandeep@Sandeep-Verma:~/version_control$
```

5. Commit the file

```
sandeep@Sandeep-Verma:~/version_control$ git add new
sandeep@Sandeep-Verma:~/version_control$ 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)

        new file:    new

sandeep@Sandeep-Verma:~/version_control$ git commit -m "REady to submit"
[master b5b6a09] REady to submit
 1 file changed, 3 insertions(+)
 create mode 100644 new
sandeep@Sandeep-Verma:~/version_control$
```

6. Add remote

```
sandeep@Sandeep-Verma:~/version_control$ git remote add origin https://github.com/Micky-op/xyz.git
```

7. Undo changes to a particular file

```
sandeep@Sandeep-Verma:~/version_control$ git add new
sandeep@Sandeep-Verma:~/version_control$ 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)

        new file:   new

sandeep@Sandeep-Verma:~/version_control$ git reset new
sandeep@Sandeep-Verma:~/version_control$ git status
On branch master
Your branch is up to date with 'origin/master'.

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

        new

nothing added to commit but untracked files present (use "git add" to track)
sandeep@Sandeep-Verma:~/version_control$
```

8. Push changes to Github

```
sandeep@Sandeep-Verma:~/version_control$ git push -u origin master
Username for 'https://github.com': Micky-op
Password for 'https://Micky-op@github.com':
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 267 bytes | 267.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/Micky-op/xyz.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
```

9.Clone the repository

```
sandeep@Sandeep-Verma:~/version_control$ git clone https://github.com/Micky-op/xyz.git
Cloning into 'xyz'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
sandeep@Sandeep-Verma:~/version_control$
```

Q10.Add chages to one of the copies and pull the changes in the other

```
1   this is file
2   I will be using for sure
3   first file
4   changing
5   wq
6
```

```
sandeep@Sandeep-Verma:~/version_control$ git pull origin master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
From https://github.com/Micky-op/xyz
 * branch            master     -> FETCH_HEAD
   09d658e..311aab4  master     -> origin/master
error: Your local changes to the following files would be overwritten by merge:
        new_file
Please commit your changes or stash them before you merge.
Aborting
sandeep@Sandeep-Verma:~/version_control$ vim new_file
```

11. Check differences between a file and its staged version

```
sandeep@Sandeep-Verma:~$ cd version_control
sandeep@Sandeep-Verma:~/version_control$ cat >> file
this is file
sandeep@Sandeep-Verma:~/version_control$ git diff
diff --git a/file b/file
index 8e9e4d2..6f9f2b5 100644
--- a/file
+++ b/file
@@ -4,3 +4,4 @@ which I am currently editing
 this is another
 another changes
 adding some
+this is file
sandeep@Sandeep-Verma:~/version_control$
```

12. Ignore a few files to be checked in

```
+this is file
sandeep@Sandeep-Verma:~/version_control$ touch .gitignore
sandeep@Sandeep-Verma:~/version_control$ ls
file  new  new_file  xyz
sandeep@Sandeep-Verma:~/version_control$ cat > test_file
122333434343
sandeep@Sandeep-Verma:~/version_control$ mv test_file ./.gitinore
sandeep@Sandeep-Verma:~/version_control$ ls
file  new  new_file  xyz
sandeep@Sandeep-Verma:~/version_control$ git commit -a -m 'done'
[master 581aca1] done
 1 file changed, 1 insertion(+)
sandeep@Sandeep-Verma:~/version_control$ git push origin master
Username for 'https://github.com': Micky-op
Password for 'https://Micky-op@github.com':
Counting objects: 22, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (20/20), done.
Writing objects: 100% (22/22), 2.11 KiB | 721.00 KiB/s, done.
Total 22 (delta 5), reused 0 (delta 0)
remote: Resolving deltas: 100% (5/5), done.
To https://github.com/Micky-op/xyz.git
   311aab4..581aca1  master -> master
sandeep@Sandeep-Verma:~/version_control$
```

13.Create a new branch.

```
sandeep@Sandeep-Verma:~/version_control$ git checkout -b new_branch
Switched to a new branch 'new_branch'
sandeep@Sandeep-Verma:~/version_control$ git branch
  master
* new_branch
```

14. Diverge them with commits

```
sandeep@Sandeep-Verma:~/version_control$ git branch
* master
  new_branch
sandeep@Sandeep-Verma:~/version_control$ git checkout new_branch
Switched to branch 'new_branch'
sandeep@Sandeep-Verma:~/version_control$ git add testing
sandeep@Sandeep-Verma:~/version_control$ git commit -a -m 'commiting'
[new_branch b86407c] commiting
 1 file changed, 2 insertions(+)
 create mode 100644 testing
sandeep@Sandeep-Verma:~/version_control$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
sandeep@Sandeep-Verma:~/version_control$ git merge new_branch
Updating 581aca1..b86407c
Fast-forward
 testing | 2 ++
 1 file changed, 2 insertions(+)
 create mode 100644 testing
sandeep@Sandeep-Verma:~/version_control$
```

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

```
sandeep@Sandeep-Verma:~/version_control$ git checkout new_branch
Switched to branch 'new_branch'
sandeep@Sandeep-Verma:~/version_control$ cat >> file
this is my place
sandeep@Sandeep-Verma:~/version_control$ cat file
this is a file
which I am currently editing
:wq
this is another
another changes
adding some
this is file
this is my place
sandeep@Sandeep-Verma:~/version_control$ git commit -a -m 'commiting'
[new_branch febbcaa] commiting
 1 file changed, 1 insertion(+)
sandeep@Sandeep-Verma:~/version_control$ git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)
sandeep@Sandeep-Verma:~/version_control$ cat >> file
this is another change from master
sandeep@Sandeep-Verma:~/version_control$ git commit -a -m 'commiting'
[master 4d9e0f5] commiting
 1 file changed, 1 insertion(+)
sandeep@Sandeep-Verma:~/version_control$ git merge new_branch
Auto-merging file
CONFLICT (content): Merge conflict in file
Automatic merge failed; fix conflicts and then commit the result.
sandeep@Sandeep-Verma:~/version_control$
```

16. Try merging and resolve merge conflicts

```
this is a file
which I am currently editing
:wq
this is another
another changes
adding some
this is file
<<<<<<< HEAD
this is another change from master
=======
this is my place
>>>>>>> new_branch
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
```

Just remove duplicates and retain the segment that you actually required

17. Try merging and resolve merge conflicts

```
sandeep@Sandeep-Verma:~/version_control$ cat >> file
changed
sandeep@Sandeep-Verma:~/version_control$ git stash
Saved working directory and index state WIP on master: af182aa this
sandeep@Sandeep-Verma:~/version_control$ git stash list
stash@{0}: WIP on master: af182aa this
sandeep@Sandeep-Verma:~/version_control$ git stash pop
On branch master
Your branch is up to date with 'origin/master'.

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:   file

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

        .gitignore
        .gitinore

no changes added to commit (use "git add" and/or "git commit -a")
Dropped refs/stash@{0} (b7c081d58101e5adf7d7c44b70c86768d0a26dd4)
sandeep@Sandeep-Verma:~/version_control$ git commit -a -m "commit"
[master 6cc2dda] commit
 1 file changed, 1 insertion(+)
sandeep@Sandeep-Verma:~/version_control$ git stash pop
No stash entries found.
sandeep@Sandeep-Verma:~/version_control$ git stash apply
No stash entries found.
sandeep@Sandeep-Verma:~/version_control$
```

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

Terminal

File Edit View Search Terminal Help

andeep@Sandeep-Verma:~ $