

# Introduction to Version Control 05-Feb-2019

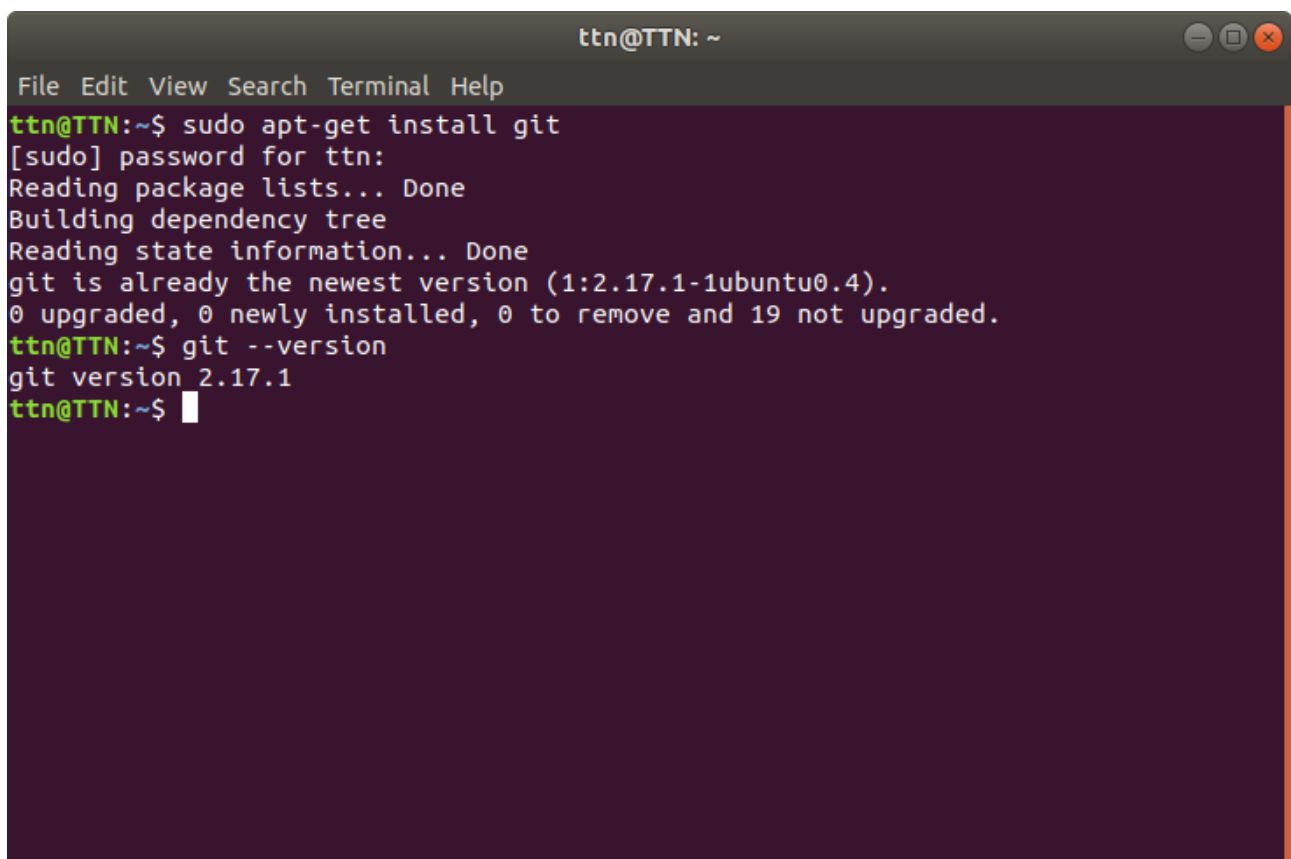
Q1.

To install git

```
sudo apt-get install git
```

To check version of git

```
git --version
```

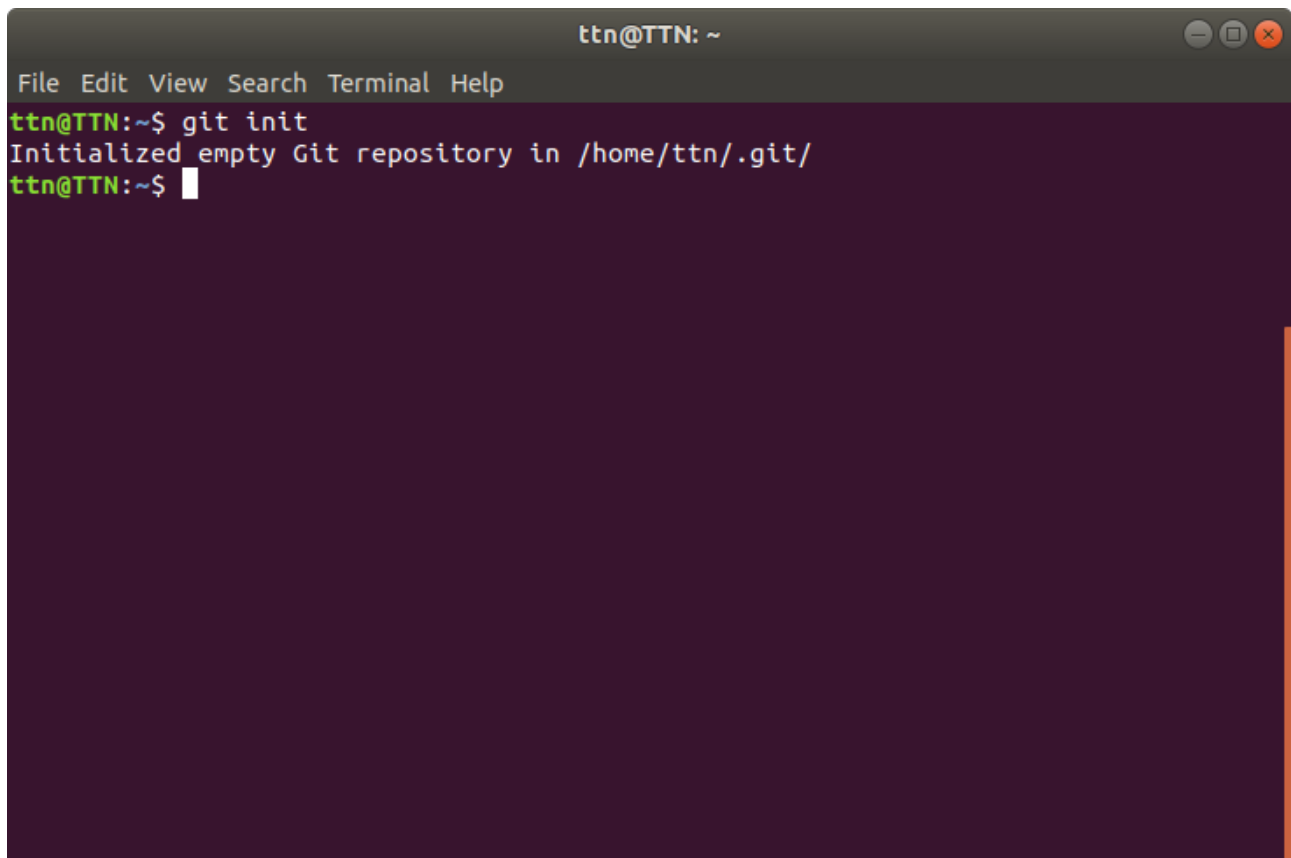
A terminal window titled 'ttn@TTN: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal output shows the command 'sudo apt-get install git' being executed. It prompts for a password, then shows the progress of installing git, including reading package lists, building a dependency tree, and reading state information. The output indicates that git is already the newest version (1:2.17.1-1ubuntu0.4) and that 0 packages were upgraded, 0 were newly installed, 0 were to be removed, and 19 were not upgraded. The next command 'git --version' is executed, showing the output 'git version 2.17.1'. The prompt returns to 'ttn@TTN:~\$' with a cursor.

```
ttn@TTN:~$ sudo apt-get install git
[sudo] password for ttn:
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 19 not upgraded.
ttn@TTN:~$ git --version
git version 2.17.1
ttn@TTN:~$
```

Q2.

**To initialise git**

*git init*

A terminal window titled 'ttn@TTN: ~' with standard window controls. The menu bar includes 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal shows the command 'git init' being executed, followed by the output 'Initialized empty Git repository in /home/ttn/.git/'. The prompt 'ttn@TTN:~\$' is shown again with a cursor.

```
ttn@TTN: ~  
File Edit View Search Terminal Help  
ttn@TTN:~$ git init  
Initialized empty Git repository in /home/ttn/.git/  
ttn@TTN:~$
```

**Q3.**

**Add the files in your new local repository**

**firstly create a file**

*touch file1*

**add Command**

*git add file1*

```
root@TTN:/temp/projects/VCassignment# touch file1
root@TTN:/temp/projects/VCassignment# ll
total 12
drwxr-xr-x 3 root root 4096 Feb  5 17:23 ./
drwxr-xr-x 4 root root 4096 Feb  5 17:22 ../
-rw-r--r-- 1 root root    0 Feb  5 17:23 file1
drwxr-xr-x 7 root root 4096 Feb  5 17:22 .git/
root@TTN:/temp/projects/VCassignment# git add file1
root@TTN:/temp/projects/VCassignment# git staus
git: 'staus' is not a git command. See 'git --help'.

The most similar command is
    status
root@TTN:/temp/projects/VCassignment# git status
On branch master

No commits yet

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

        new file:   file1

root@TTN:/temp/projects/VCassignment#
```

**Q4.**

**command**

*git rm --cached file1*

```
root@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
root@TTN:/temp/projects/VCassignment# git rm --cached file1
rm 'file1'
root@TTN:/temp/projects/VCassignment# get status

Command 'get' not found, but there are 18 similar ones.

root@TTN:/temp/projects/VCassignment# git status
On branch master

No commits yet

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

        file1

nothing added to commit but untracked files present (use "git add" to track)
root@TTN:/temp/projects/VCassignment#
```

Q5.

**command for localhost**

*git comit -m "Message"*

```
root@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
root@TTN:/temp/projects/VCassignment# git commit -m "Commit the file1."
[master (root-commit) 6e081d5] Commit the file1.
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 file1
root@TTN:/temp/projects/VCassignment#
```

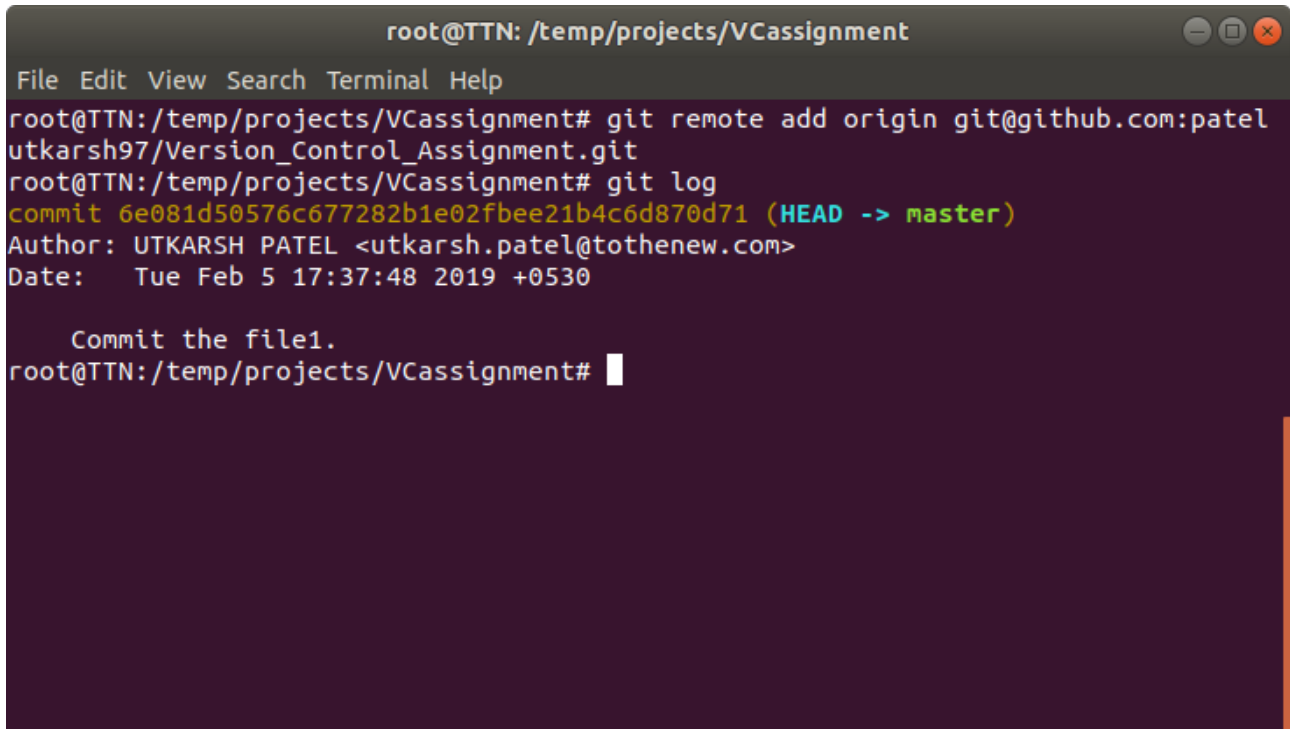
**command for server**

*git remote add/set-url remote repo*

**Q6.**

**command**

*git remote add origin git@github.com:patelutkarsh97/Version\_Control\_Assignment.git*

A terminal window titled 'root@TTN: /temp/projects/VCassignment' with standard window controls. The terminal shows the execution of 'git remote add origin git@github.com:patelutkarsh97/Version\_Control\_Assignment.git', followed by 'git log' which displays a commit hash and message. The prompt then shows 'Commit the file1.' and the terminal returns to the shell prompt.

```
root@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
root@TTN:/temp/projects/VCassignment# git remote add origin git@github.com:patel
utkarsh97/Version_Control_Assignment.git
root@TTN:/temp/projects/VCassignment# git log
commit 6e081d50576c677282b1e02fbee21b4c6d870d71 (HEAD -> master)
Author: UTKARSH PATEL <utkarsh.patel@tothenew.com>
Date: Tue Feb 5 17:37:48 2019 +0530

    Commit the file1.
root@TTN:/temp/projects/VCassignment#
```

**Q7.**

**command**

*git checkout -- file1*

```
root@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    modified:   file1

root@TTN:/temp/projects/VCassignment# cat file1
Hello
Thanks
Bye
Testing

root@TTN:/temp/projects/VCassignment# git stash
Saved working directory and index state WIP on master: 6e081d5 Commit the file1.
root@TTN:/temp/projects/VCassignment# git status
On branch master
nothing to commit, working tree clean
root@TTN:/temp/projects/VCassignment# git checkout -- file1
root@TTN:/temp/projects/VCassignment# cat file1
root@TTN:/temp/projects/VCassignment#
```

Q8.

**command**

*git push origin master*

```
ttn@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
ttn@TTN:/temp/projects/VCassignment$ git push origin master
Warning: Permanently added the RSA host key for IP address '192.30.253.113' to the list of known hosts.
Counting objects: 3, done.
Writing objects: 100% (3/3), 227 bytes | 227.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To github.com:patelutkarsh97/Version_Control_Assignment.git
 * [new branch]      master -> master
error: update_ref failed for ref 'refs/remotes/origin/master': cannot lock ref 'refs/remotes/origin/master': unable to create directory for .git/refs/remotes/origin/master
ttn@TTN:/temp/projects/VCassignment$
```

**Q9.**

**command**

*git clone git@github.com:patelutkarsh97/Version\_Control\_Assignment.git*



```
ttn@TTN:/temp/projects/VCassignment$ git clone git@github.com:patelutkarsh97/Version_Control_Assignment.git
Cloning into 'Version_Control_Assignment'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.
ttn@TTN:/temp/projects/VCassignment$
```

**Q10.**

### **Command**

`mkdir -p newfolder`

`git clone git@github.com:patelutkarsh97/Version_Control_Assignment.git`

now go to original (Vcassignment) folder and pull allthe changes

git pull origin master

```
ttn@TTN:/temp/projects/VCassignment$ sudo git pull origin master
[sudo] password for ttn:
From https://github.com/patelutkarsh97/Version_Control_Assignment
* branch                master      -> FETCH_HEAD
   6e081d5..cfa6dd5      master      -> origin/master
Already up to date.
ttn@TTN:/temp/projects/VCassignment$
```

**Q11.**

**Command**

*git diff --staged HEAD file1*

```
ttn@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
ttn@TTN:/temp/projects/VCassignment$ git diff --staged HEAD file1
diff --git a/file1 b/file1
index e69de29..15520fd 100644
--- a/file1
+++ b/file1
@@ -0,0 +1,5 @@
+Hello
+Bye
+Thank
+Testing
+for demo
ttn@TTN:/temp/projects/VCassignment$
```

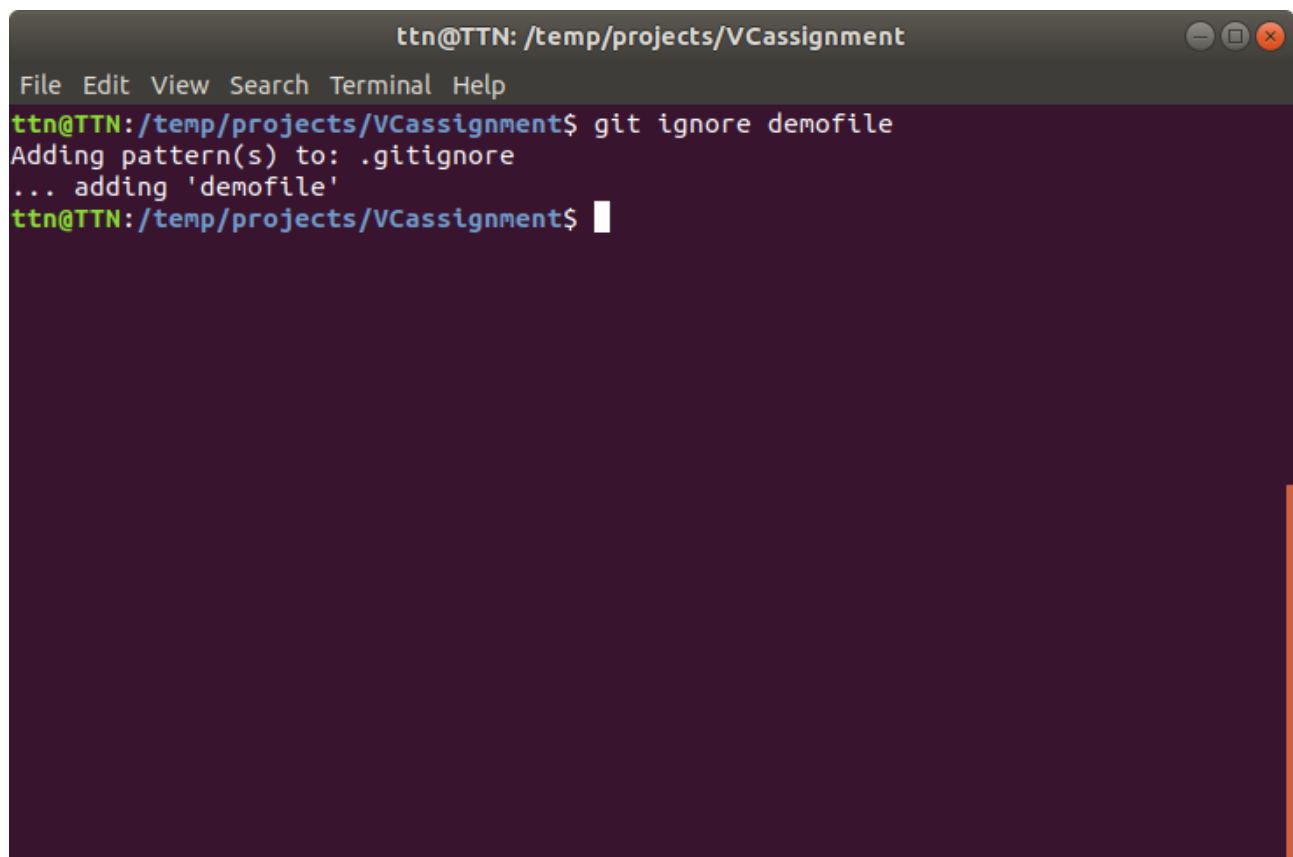
Q12.

#### Prerequisites

```
sudo apt-get install git-extras
```

#### Command

*git ignore filename*

A terminal window titled 'ttn@TTN: /temp/projects/VCassignment' with standard window controls. The menu bar includes 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal text shows the command 'git ignore demofile' being entered, followed by the output 'Adding pattern(s) to: .gitignore' and '... adding 'demofile''. The prompt returns to 'ttn@TTN: /temp/projects/VCassignment\$' with a cursor.

```
ttn@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
ttn@TTN:/temp/projects/VCassignment$ git ignore demofile
Adding pattern(s) to: .gitignore
... adding 'demofile'
ttn@TTN:/temp/projects/VCassignment$
```

**Q13.**

**Command**

*git checkout -b [name\_of\_new\_branch]*

```
ttn@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
ttn@TTN:/temp/projects/VCassignment$ sudo git checkout -b newBranch
M      .gitignore
Switched to a new branch 'newBranch'
ttn@TTN:/temp/projects/VCassignment$
```

Q14.

adding file2 in newbranch and then checking the master branch

```
ttn@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
ttn@TTN:/temp/projects/VCassignment$ ls
demofile  file1  readme  Version_Control_Assignment
ttn@TTN:/temp/projects/VCassignment$ touch file2
ttn@TTN:/temp/projects/VCassignment$ sudo git add .
ttn@TTN:/temp/projects/VCassignment$ sudo git commit -m "Added file 2"
[newBranch d3d1413] Added file 2
 1 file changed, 2 insertions(+), 1 deletion(-)
ttn@TTN:/temp/projects/VCassignment$ git status
On branch newBranch
nothing to commit, working tree clean
ttn@TTN:/temp/projects/VCassignment$ sudo git checkout master
Switched to branch 'master'
ttn@TTN:/temp/projects/VCassignment$ ls
demofile  file1  readme  Version_Control_Assignment
ttn@TTN:/temp/projects/VCassignment$
```

Q15.

Follow the command on terminal

```
ttn@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
ttn@TTN:/temp/projects/VCassignment$ vim file2
ttn@TTN:/temp/projects/VCassignment$ sudo git add .
ttn@TTN:/temp/projects/VCassignment$ sudo git commit -m "Updated file2"
[master f500eeb] Updated file2
 2 files changed, 4 insertions(+)
 create mode 100644 demofile
 create mode 100644 file2
ttn@TTN:/temp/projects/VCassignment$ sudo git push origin newBranch
Username for 'https://github.com': patelutkarsh97@rediffmail.com
Password for 'https://patelutkarsh97@rediffmail.com@github.com':
Counting objects: 12, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (9/9), done.
Writing objects: 100% (12/12), 1.10 KiB | 564.00 KiB/s, done.
Total 12 (delta 3), reused 0 (delta 0)
remote: Resolving deltas: 100% (3/3), completed with 1 local object.
remote:
remote: Create a pull request for 'newBranch' on GitHub by visiting:
remote:   https://github.com/patelutkarsh97/Version_Control_Assignment/pull/new/newBranch
remote:
To https://github.com/patelutkarsh97/Version_Control_Assignment
 * [new branch]      newBranch -> newBranch
ttn@TTN:/temp/projects/VCassignment$
```

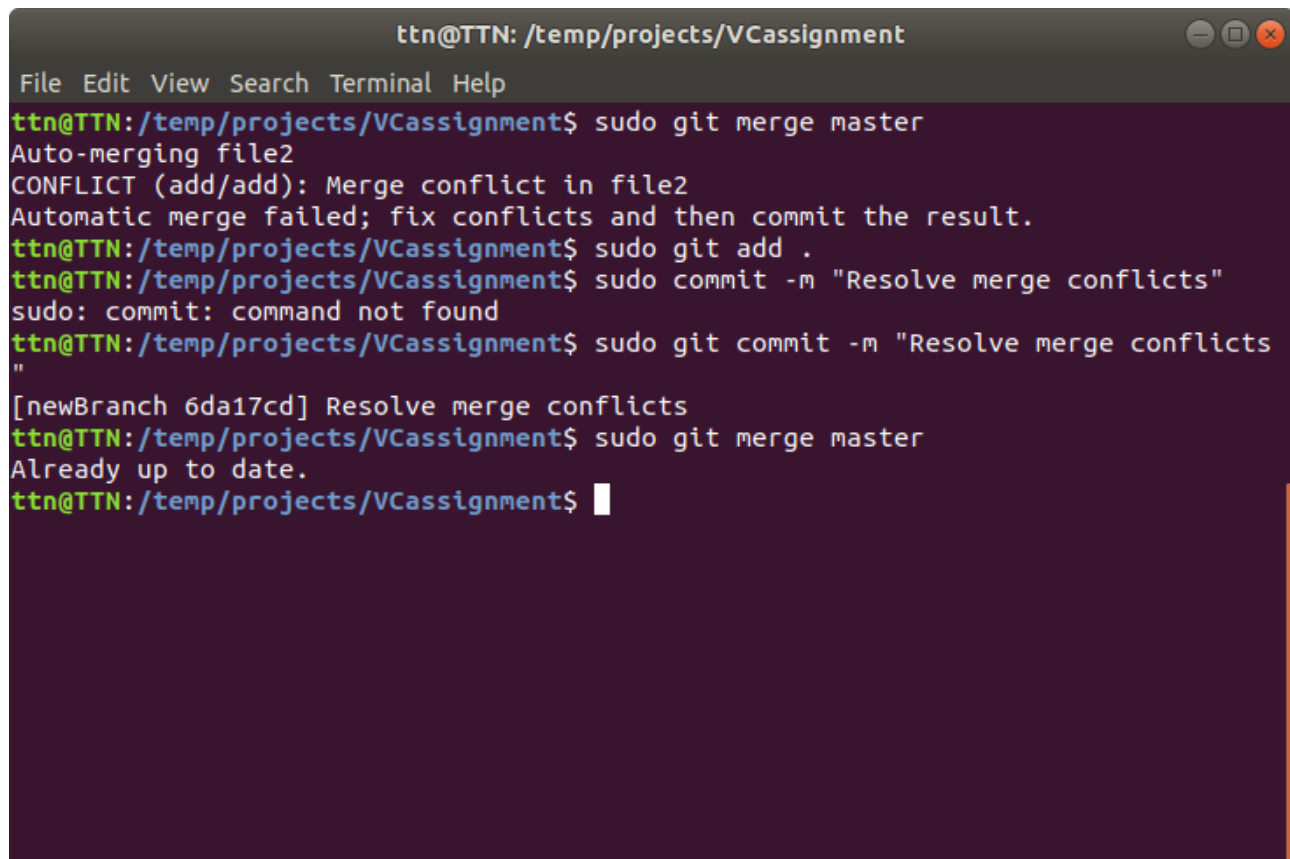
```
ttn@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
To https://github.com/patelutkarsh97/Version_Control_Assignment
 * [new branch]      newBranch -> newBranch
ttn@TTN:/temp/projects/VCassignment$ sudo git checkout master
Already on 'master'
ttn@TTN:/temp/projects/VCassignment$ sudo git checkout newBranch
Switched to branch 'newBranch'
ttn@TTN:/temp/projects/VCassignment$ vim file2
ttn@TTN:/temp/projects/VCassignment$ sudo git add .
ttn@TTN:/temp/projects/VCassignment$ sudo git commit -m "Updated file 2"
[newBranch 7b044c6] Updated file 2
 1 file changed, 2 insertions(+)
ttn@TTN:/temp/projects/VCassignment$ sudo git push origin newBranch\
>
Username for 'https://github.com': patelutkarsh97@rediffmail.com
Password for 'https://patelutkarsh97@rediffmail.com@github.com':
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 287 bytes | 287.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/patelutkarsh97/Version_Control_Assignment
 d3d1413..7b044c6 newBranch -> newBranch
ttn@TTN:/temp/projects/VCassignment$
```

Q16.

Try to merge using command

git merge master

and then resolve the conflict

A terminal window titled 'ttn@TTN: /temp/projects/VCassignment' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
ttn@TTN:/temp/projects/VCassignment$ sudo git merge master
Auto-merging file2
CONFLICT (add/add): Merge conflict in file2
Automatic merge failed; fix conflicts and then commit the result.
ttn@TTN:/temp/projects/VCassignment$ sudo git add .
ttn@TTN:/temp/projects/VCassignment$ sudo commit -m "Resolve merge conflicts"
sudo: commit: command not found
ttn@TTN:/temp/projects/VCassignment$ sudo git commit -m "Resolve merge conflicts"
[newBranch 6da17cd] Resolve merge conflicts
ttn@TTN:/temp/projects/VCassignment$ sudo git merge master
Already up to date.
ttn@TTN:/temp/projects/VCassignment$
```

Q17.

Firstly modify any file to create conflict  
then check the

*git status*

then put the conflicting file into stash using command



*git stash save -u*

**after that drop the stash using command**

*git stash pop*

```
ttn@TTN:/temp/projects/VCassignment$ sudo vim demofile
ttn@TTN:/temp/projects/VCassignment$ git status
On branch newBranch
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:   demofile

no changes added to commit (use "git add" and/or "git commit -a")
ttn@TTN:/temp/projects/VCassignment$ sudo git stash save -u
Saved working directory and index state WIP on newBranch: 6da17cd Resolve merge conflicts
ttn@TTN:/temp/projects/VCassignment$ git status
On branch newBranch
nothing to commit, working tree clean
ttn@TTN:/temp/projects/VCassignment$ sudo git stash pop
On branch newBranch
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:   demofile

no changes added to commit (use "git add" and/or "git commit -a")
Dropped refs/stash@{0} (315691aed80d9b9cb104e3d2215f7d490a35e8bc)
ttn@TTN:/temp/projects/VCassignment$
```

**Q18.**

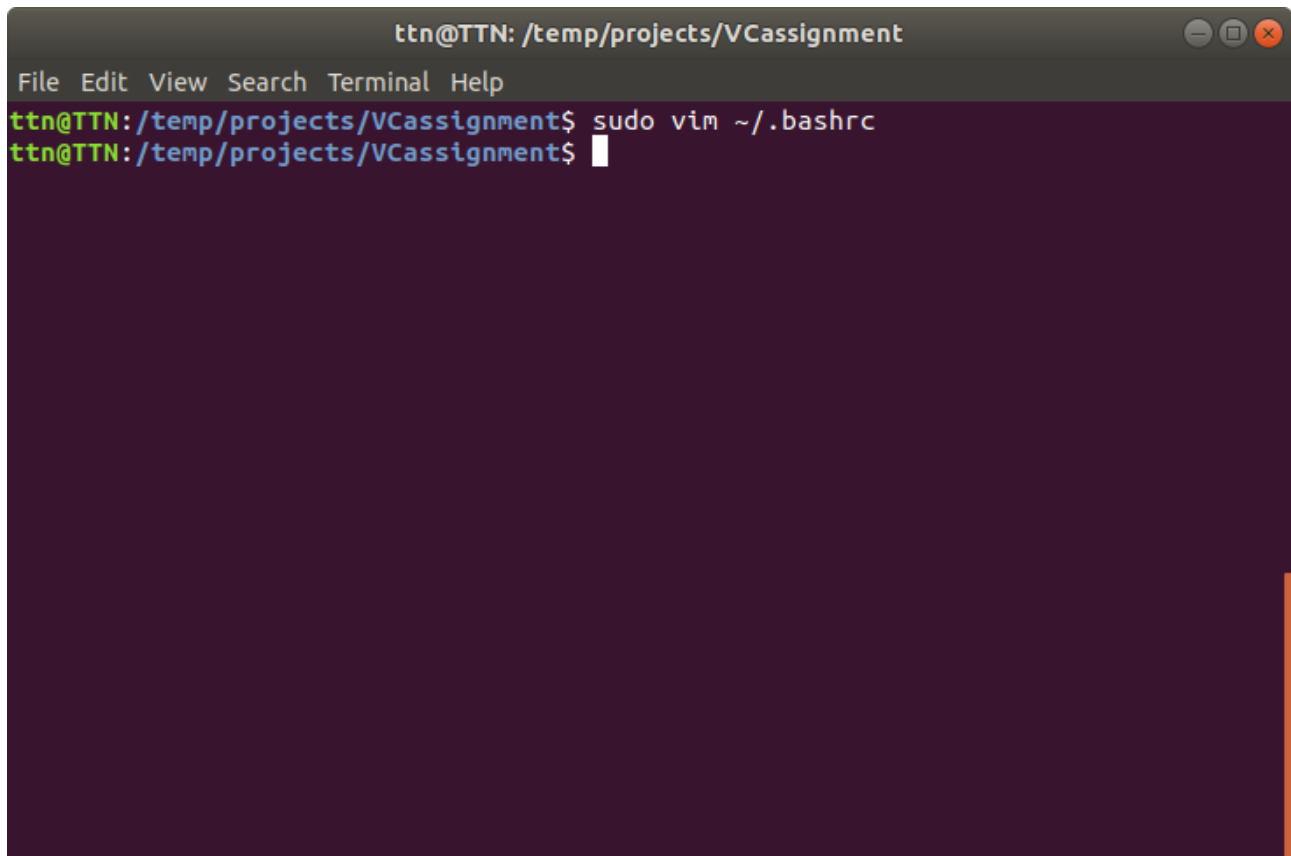
**Command to edit .bashrc file using vim**

*vim ~/.bashrc*

**then to insert press *i***

**and to save and quit vim press**

ESC :wq

A terminal window titled "ttn@TTN: /temp/projects/VCassignment" with standard window controls. The menu bar includes "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal shows a prompt "ttn@TTN:/temp/projects/VCassignment\$" followed by the command "sudo vim ~/.bashrc". The next line shows the prompt again with a cursor, indicating the command has been executed and the terminal is ready for further input.

```
ttn@TTN: /temp/projects/VCassignment
File Edit View Search Terminal Help
ttn@TTN:/temp/projects/VCassignment$ sudo vim ~/.bashrc
ttn@TTN:/temp/projects/VCassignment$
```