

Question 1: Setup Git

Ans : To setup git in your system firstly check that wheater it is install in your system or not.

To do this run the following command :

```
File Edit View Search Terminal Help
ttn@ttn:~$ git --version
git version 2.20.1
ttn@ttn:~$
```

If it indicate that git is not found then use command:

\$ sudo apt-get update

\$ sudo apt-get install git

.To configure your git username and email use the follwing commands:

```
File Edit View Search Terminal Help
ttn@ttn:~$ git --version
git version 2.20.1
ttn@ttn:~$ sudo git config --global user.name "Abhi"
[sudo] password for ttn:
ttn@ttn:~$ sudo git config --global user.email "Abhi@gmail.com"
ttn@ttn:~$
```

To check Username

```
ttn@ttn:~$ sudo git config --global user.name
Abhi
```

To check Email ID:

```
ttn@ttn:~$ sudo git config --global user.email
Abhi@gmail.com
```

Question 2: Initialize a Git Repository

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

Question 3: Add files to the repository

```
ttn@ttn:~/Desktop/folder$ sudo touch {f1,f2}.txt
ttn@ttn:~/Desktop/folder$ ls -l
total 0
-rw-r--r-- 1 root root 0 Feb  8 23:51 f1.txt
-rw-r--r-- 1 root root 0 Feb  8 23:51 f2.txt
```

Question 4: Unstage 1 file

```
Activities Terminal Sun 9:05 PM ttn@ttn: ~/Desktop/folder
File Edit View Search Terminal Help
ttn@ttn:~/Desktop/folder$ sudo touch file.txt
[sudo] password for ttn:
ttn@ttn:~/Desktop/folder$ sudo git status
On branch 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:   f1.txt

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

        f2.txt
        f1.txt
no changes added to commit (use "git add" and/or "git commit -a")
ttn@ttn:~/Desktop/folder$ sudo git add file.txt
ttn@ttn:~/Desktop/folder$ sudo git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        new file:   file.txt

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:   f1.txt

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

        f2.txt
ttn@ttn:~/Desktop/folder$ sudo rm --cached file.txt
sudo: rm: command not found
```

```
ttn@ttn:~/Desktop/folder$ sudo rm --cached file.txt
rm: unrecognized option '--cached'
Try 'rm --help' for more information.
ttn@ttn:~/Desktop/folder$ sudo git rm --cached file.txt
rm 'file.txt'
ttn@ttn:~/Desktop/folder$ sudo git status
On branch 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:   f1.txt

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

        f2.txt
        file.txt

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

Question 5: Commit the file

```
ttn@ttn:~/Desktop/folder$ git status
On branch master

No commits yet

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

        new file:   f1.txt

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

        f2.txt

ttn@ttn:~/Desktop/folder$ sudo git commit
Aborting commit due to empty commit message.
ttn@ttn:~/Desktop/folder$ sudo git commit -m "F1.txt is committed"
[master (root-commit) 35719bb] F1.txt is committed
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 f1.txt
```

Question 6: Add a remote

```
ttn@ttn:~/Desktop/folder$ sudo git remote add origin https://github.com/abhivirsonline/into_to_git
ttn@ttn:~/Desktop/folder$
```

Question 7: Undo changes to a particular file.

Ans:

```
File Edit View Search Terminal Help
ttn@ttn:~/Desktop/gitfolder$ cat newfile.txt
Welcome
ttn@ttn:~/Desktop/gitfolder$ echo "Hello" > newfile.txt
ttn@ttn:~/Desktop/gitfolder$ cat newfile.txt
Hello
ttn@ttn:~/Desktop/gitfolder$ sudo git reset --hard
HEAD is now at f6d0ee3 adding new file
ttn@ttn:~/Desktop/gitfolder$ cat newfile.txt
Hello
ttn@ttn:~/Desktop/gitfolder$
```

Question 8: Push changes to Git

```
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git push -u origin master
Username for 'https://github.com': Abhivirsonline
Password for 'https://Abhivirsonline@github.com':
Branch 'master' set up to track remote branch 'master' from 'origin'.
Everything up-to-date
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$
```

Question 9: Clone the repository.

```
ttn@ttn:~/Desktop/gitfolder$ sudo git clone https://github.com/Abhivirsonline/Introduction_to_databases
Cloning into 'Introduction_to_databases'...
remote: Enumerating objects: 20, done.
remote: Counting objects: 100% (20/20), done.
remote: Compressing objects: 100% (20/20), done.
remote: Total 20 (delta 4), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (20/20), done.
```

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

Ans:

```
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo touch a
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git add .ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git commit -m
"added a file"
[master 96ac69f] added a file
1 file changed, 0 insertions(+), 0 deletions(-)
```

```
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git push -u origin master
Username for 'https://github.com': Abhivirsonline
Password for 'https://Abhivirsonline@github.com':
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 257 bytes | 257.00 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/Abhivirsonline/Introduction_to_databases
8ee572e..96ac69f master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git branch
* master
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git branch newBranch
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git branch
* master
  newBranch
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git checkout newBranch
Switched to branch 'newBranch'
```

```
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git pull https://github.com/abhivirsonline/Introduction_to_databases
From https://github.com/abhivirsonline/Introduction_to_databases
 * branch      HEAD      -> FETCH_HEAD
Already up to date.
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git pull
There is no tracking information for the current branch.
Please specify which branch you want to merge with.
See git-pull(1) for details.

    git pull <remote> <branch>

If you wish to set tracking information for this branch you can do so with:

    git branch --set-upstream-to=origin/<branch> newBranch

ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git pull https://github.com/abhivirsonline/Introduction_to_databases
From https://github.com/abhivirsonline/Introduction_to_databases
 * branch      HEAD      -> FETCH_HEAD
Already up to date.
```

Question 11: Check differences between a file and its staged version.

```
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo touch abc.txt
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git add .
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo touch abc1.txt
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git statusOn branch newBranch
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    new file:   abc.txt

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

    abc1.txt
```

Question 12: Ignore a few files to be checked in.

```
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo touch .gitignore
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ ls -la
total 1632
drwxr-xr-x 3 root root 4096 Feb 10 22:19 .
drwxr-xr-x 3 ttn ttn 4096 Feb 10 21:47 ..
-rw-r--r-- 1 root root 1834 Feb 10 21:47 11.html
-rw-r--r-- 1 root root 2239 Feb 10 21:47 12.html
-rw-r--r-- 1 root root 0 Feb 10 21:59 a
-rw-r--r-- 1 root root 0 Feb 10 22:15 abc1.txt
-rw-r--r-- 1 root root 0 Feb 10 22:14 abc.txt
-rw-r--r-- 1 root root 620635 Feb 10 21:47 'Assignment 1.pdf'
-rw-r--r-- 1 root root 376041 Feb 10 21:47 'Assignment-3 -Abhishek Yadav.pdf'
-rw-r--r-- 1 root root 181063 Feb 10 21:47 'Assignment 4 - Introduction to HTML CSS.docx'
-rw-r--r-- 1 root root 454879 Feb 10 21:47 'Assignment 4 - Introduction to HTML CSS.pdf'
-rw-r--r-- 1 root root 1194 Feb 10 21:47 bug.css
drwxr-xr-x 8 root root 4096 Feb 10 22:15 .git
-rw-r--r-- 1 root root 0 Feb 10 22:19 .gitignore
-rw-r--r-- 1 root root 1700 Feb 10 21:47 style.css
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ Now If i will move files to .gitignore folder then it will not traced.
```

Question 13: Create a new branch.

```

ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git branch* master
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git branch newBranch
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git branchgit: 'branch' is not a git command. See 'git --help'.

The most similar command is
    branch
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git branch* master
    newBranch

```

Question 14: Diverge them with commits.

```

ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git log --graph --decorate --oneline --all
* 96ac69f (HEAD -> master, origin/master, origin/HEAD, newBranch) added a file
* 8ee572e Add files via upload
* 6be91b3 Add files via upload
* e3bbde0 Add files via upload
* 58263d7 Add files via upload
* a153faf Add files via upload
* 4be8530 assignment 3

```

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

```

ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ cat a
Hello
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo echo "Welcome" > a
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ cat a
Welcome
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git add .
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git commit -m "edited a at master"
[master e342ac9] edited a at master
4 files changed, 1 insertion(+)
create mode 100644 .gitignore
create mode 100644 abc.txt
create mode 100644 abc1.txt
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git checkout newBranch
Switched to branch 'newBranch'
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ cat a
Hello
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo echo "Hi!" > a
bash: a: Permission denied
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo chmod 666 a
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo echo "Hi!" > a
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ cat a
Hi!
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git add .ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git commit -m "edited a in newBranch"
[newBranch 6f664f6] edited a in newBranch
1 file changed, 1 insertion(+)

```

Question 16:Try merging and resolve merge conflicts.

```

ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git merge newBranch
error: Merging is not possible because you have unmerged files.
hint: Fix them up in the work tree, and then use 'git add/rm <file>'
hint: as appropriate to mark resolution and make a commit.
fatal: Exiting because of an unresolved conflict.
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ cat a
Hi!
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git checkout newBranch
a: needs merge
error: you need to resolve your current index first
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
(use "git push" to publish your local commits)

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:   a

no changes added to commit (use "git add" and/or "git commit -a")

```

```
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git add a
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
(use "git push" to publish your local commits)

All conflicts fixed but you are still merging.
(use "git commit" to conclude merge)

Changes to be committed:
  modified:   a

ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git commit -m "resolving"
[master afa3161] resolving
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git status
On branch master
Your branch is ahead of 'origin/master' by 3 commits.
(use "git push" to publish your local commits)

nothing to commit, working tree clean

ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git merge newBranch
Already up to date.
```

Question 17: Stash the changes and pop them.

```
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git stash
Saved working directory and index state WIP on newBranch: 6f664f6 edited a in newBranch
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git mergemaster: 'master' is not a git command. See 'git --help'.
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 3 commits.
(use "git push" to publish your local commits)
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ sudo git checkout newBranch
Switched to branch 'newBranch'
ttn@ttn:~/Desktop/gitfolder/Introduction_to_databases$ 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)
```

Question 18: Add the following code to your .bashrc file:

```
Open ▾ .bashrc ~/
# ~/.bashrc: executed by bash(1) for non-login shells.
# see /usr/share/doc/bash/examples/startup-files (in the package bash-doc)
# for examples
# If not running interactively, don't do anything
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

Files Edit View Search Terminal Help
GNU nano 2.9.3 New Buffer Modified
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
```