

**AMITY UNIVERSITY, BENGALURU**  
**SOURCE CODE MANAGEMENT**

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## Index

Session -1:Basic linux-commands taught in git bash : .....	3
Session-02: Installation and configuration of gitbash and GitHub.....	5
Session-03 Introduction to GitHub and configuration into gitbash .....	9
Session-04 Creating branches and pushing into it (was a part of CA-1).....	10
Session-05: Merging two branches with and without conflicts and graphing all of them .....	11
Session-06: Pull Requests and close in Github.....	12

## Session -1:Basic linux-commands taught in git bash :

1. mkdir-To create a new file or directory
2. Rmdir-To delete a new directory
3. Cat-to view the current file
4. Pwd-To know which file we stand on (path)
5. Ls- to get the list of directories in the system
6. cp- copying files or directories to another
7. ping- connecting to a network host
8. mv- moving files or directories
9. rn-removing files
10. vi/nano- creating new files
11. touch-fetching empty files
12. ls -ah files in current directory

[illegible]

```

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ cat test.txt
hello

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ mv sample gitjahnavi
mv: cannot stat 'sample': No such file or directory

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ rm test.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ rmdir sample
rmdir: failed to remove 'sample': No such file or directory

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ cd ..

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~
$ rmdir sample
rmdir: failed to remove 'sample': Directory not empty

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~
$ rm
rm: missing operand
Try 'rm --help' for more information.

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~
$ rm .
rm: cannot remove '.': Is a directory

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~
$ cd sample

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ rm .
rm: cannot remove '.': Is a directory

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ rm test.txt
rm: cannot remove 'test.txt': No such file or directory

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ rm test.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ cd ..

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~
$ rmdir sample

```

```

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~
$ cd sample

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ pwd
/c/Users/Jahnavi Krishnan/sample

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ cat test.txt
hello

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ ping root
Ping request could not find host root. Please check the name and try again.

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ ping localhost

Pinging DESKTOP-E43511E [::1] with 32 bytes of data:
Reply from ::1: time<1ms
Reply from ::1: time<1ms
Reply from ::1: time<1ms
Reply from ::1: time<1ms

Ping statistics for ::1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ touch text.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ vi text.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ touch text.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ cp test.txt text.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ cat text.txt
hello

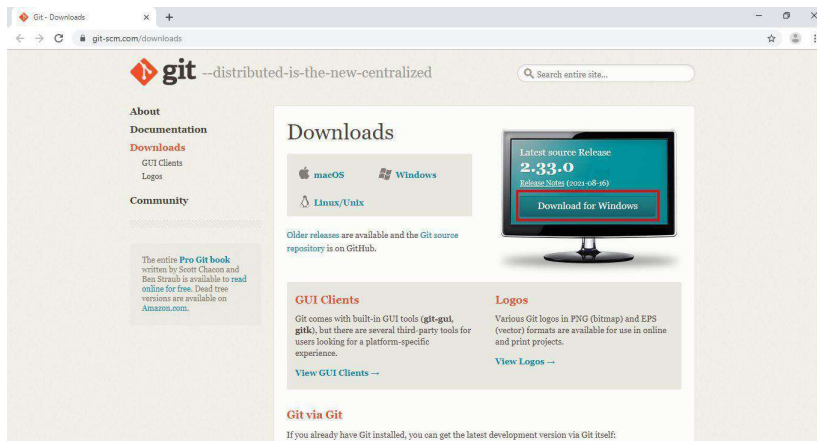
Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/sample
$ cat test.txt
hello

```

## Session-02: Installation and configuration of gitbash and GitHub

### 1. Download Git for Windows

Navigate to the official Git website and download the installer for Windows.



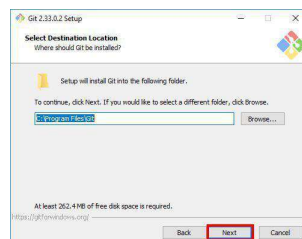
### 2. License Agreement

Upon running the installer, you'll be presented with the GNU General Public License. Accept the agreement to proceed.



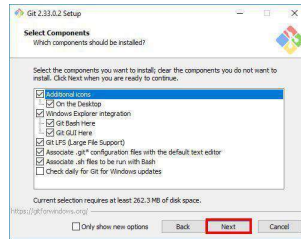
### 3. Select Installation Folder

Choose the directory where Git will be installed. The default path is usually sufficient.



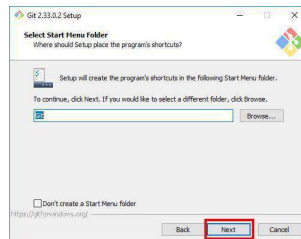
### 4. Select Components

Select the components you wish to install. It's recommended to leave the default selections unless you have specific requirements.



## 5. Choose Start Menu Folder

Decide on the Start Menu folder name where Git shortcuts will be placed.



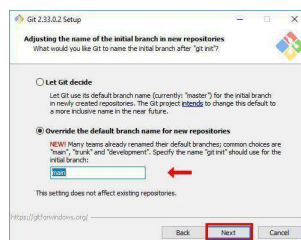
## 6. Choosing the Default Editor

Select the default text editor for Git. Visual Studio Code is a popular choice.



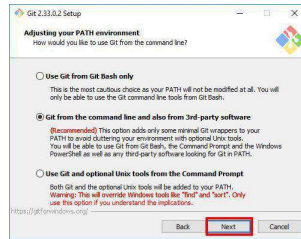
## 7. Adjusting the Name of the Initial Branch

Set the default branch name for new repositories. "main" is commonly used.



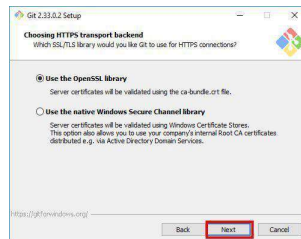
## 8. Adjusting Your PATH Environment

Choose how Git will be integrated into your system's PATH. The recommended option allows Git to be used from the command line and third-party software.



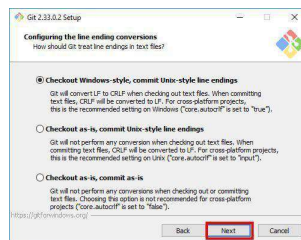
## 9. Choosing HTTPS Transport Backend

Select the HTTPS transport backend. Using the OpenSSL library is the default and recommended option.



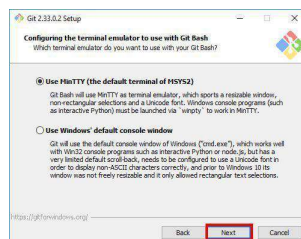
## 10. Configuring the Line Ending Conversions

Decide how Git will handle line endings. The default setting is suitable for most users.



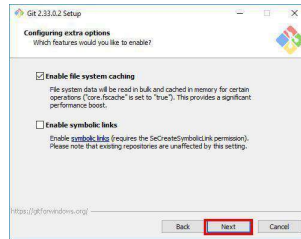
## 11. Configuring the Terminal Emulator

Choose the terminal emulator for Git Bash. The default MinTTY is recommended.



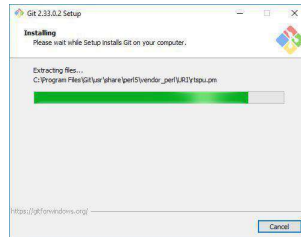
## 12. Configuring Extra Options

Select any additional options as needed. The defaults are generally appropriate.



### 13. Installing Git

Click "Install" to begin the installation process.



### 14. Completing the Installation

Once the installation is complete, git bash can be launched .





## Session-03 Introduction to GitHub and configuration into gitbash

During committing gitbash asks for authentication

Example of creating a file and pushing into it

```
januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ vi AddTwoNums.cpp

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ git
AddTwoNums.cpp gitjahnvi/ test.txt

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ git add AddTwoNums.cpp
$ git commit -m "my first c file"
[master c86c8b7] my first c file
1 file changed, 7 insertions(+), 0 deletions(-)
create mode 100644 AddTwoNums.cpp

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   AddTwoNums.cpp

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ git log
commit c86c8b7 my first c file
Author: JahnviKrishnan <jahnvi.krishnan@s.amity.edu>
Date:   Tue Feb 11 12:03:40 2020 +0530

    my first c file

commit 88f1a7c7997473780789c4e0e2a371645b1285
Author: JahnviKrishnan <jahnvi.krishnan@s.amity.edu>
Date:   Tue Feb 11 12:03:40 2020 +0530

    my first commit
```

And before this, one must create a file and commit, push into repo ,  
Then comes the git config:

1.The two most common git config commands are:

1. Set your username

git config --global user.name "JahnviKrishnan"

2. Setting email

git config --global user.email "[jahnvi.krishnan@s.amity.edu](mailto:jahnvi.krishnan@s.amity.edu)"

Pushing and git remote, git log commands

```
januh@LAPTOP-95BVC506 MINGW64 ~
$ cd

januh@LAPTOP-95BVC506 MINGW64 ~
$ cd gitjahnvi

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ git remote add L7 "https://github.com/JahnviKrishnan/SCM-L7"

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ git remote
L7

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ git push -u L7 master
info: please complete authentication in your browser...

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ git push -u L7 master
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (6/6), 563 bytes | 11.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/JahnviKrishnan/SCM-L7
 * [new branch] master -> master
branch 'master' set up to track 'L7/master'.

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnvi (master)
$ git push -u L7 master
branch 'master' set up to track 'L7/master'.
Everything up-to-date
```

## Session-04 Creating branches and pushing into it (was a part of CA-1)

```
januh@LAPTOP-95BVC506 MINGW64 ~ (master)
$ cd gitjahnavi

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (master)
$ git branch
  hey
  main
* master
  mergetest
  test
  test2

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (master)
$ git branch mergetest
fatal: a branch named 'mergetest' already exists

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (master)
$ git checkout main
Switched to branch 'main'
Your branch is behind 'L7/master' by 7 commits, and can be fast-forwarded.
(use "git pull" to update your local branch)

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (main)
$ |
```

This session includes commands to check which branch one is on, to create a new branch and shift to those branches and compare branches using deff command

## Session-05: Merging two branches with and without conflicts and graphing all of them

```
januh@LAPTOP-95BVC506 MINGW64 ~ (master)
$ cd gitjahnnavi

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (master)
$ vi testingmerge.c

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (master)
$ git add.
git: 'add.' is not a git command. See 'git --help'.

The most similar command is
    add

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (master)
$ git add .
warning: in the working copy of 'testingmerge.c', LF will be replaced by CRLF the next time Git touches it

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (master)
$ git commit -m"testing merge"
[master 646cf4c] testing merge
2 files changed, 4 insertions(+)
create mode 100644 .testingmerge.txt.swp
create mode 100644 testingmerge.c

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (master)
$ git push -u L7 master
fatal: unable to access 'https://github.com/JahnnaviKrishnan/SCM-L7/': Could not resolve host: github.com

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (master)
$ git push -u L7 master
Enumerating objects: 11, done.
Counting objects: 100% (11/11), done.
Delta compression using up to 4 threads
Compressing objects: 100% (7/7), done.
Writing objects: 100% (7/7), 927 bytes | 927.00 KiB/s, done.
Total 7 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (3/3), completed with 2 local objects.
To https://github.com/JahnnaviKrishnan/SCM-L7
   778e191..646cf4c  master -> master
branch 'master' set up to track 'L7/master'.

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (master)
$ git branch mergetest

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (master)
$ git checkout mergetest
Switched to branch 'mergetest'

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (mergetest)
$ vi testingmerge.c

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (mergetest)
$ git add .
warning: in the working copy of 'testingmerge.c', LF will be replaced by CRLF the next time Git touches it

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (mergetest)
$ git commit -m"mergetesting"
[mergetest e22f7f8] mergetesting
1 file changed, 1 insertion(+), 1 deletion(-)

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnnavi (mergetest)
$ git push -u L7 mergetest
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 322 bytes | 322.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'mergetest' on GitHub by visiting:
remote:   https://github.com/JahnnaviKrishnan/SCM-L7/pull/new/mergetest
```

```

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (master)
$ git branch mergetest

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (master)
$ git checkout mergetest
Switched to branch 'mergetest'

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (mergetest)
$ vi testingmerge.c

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (mergetest)
$ git add .
warning: in the working copy of 'testingmerge.c', LF will be replaced by CRLF the next time Git touches it

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (mergetest)
$ git commit -m"mergetesting"
[mergetest e22f7f8] mergetesting
1 file changed, 1 insertion(+), 1 deletion(-)

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (mergetest)
$ git push -u L7 mergetest
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 322 bytes | 322.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'mergetest' on GitHub by visiting:
remote:   https://github.com/JahnaviKrishnan/SCM-L7/pull/new/mergetest
remote:
To https://github.com/JahnaviKrishnan/SCM-L7
 * [new branch]   mergetest -> mergetest
branch 'mergetest' set up to track 'L7/mergetest'.

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (mergetest)
$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'L7/master'.

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (master)
$ git merge mergetest
Updating 646cf4c..e22f7f8
Fast-forward
 testingmerge.c | 2 +-
1 file changed, 1 insertion(+), 1 deletion(-)

januh@LAPTOP-95BVC506 MINGW64 ~/gitjahnavi (master)
$ git log --decorate --oneline --graph
* e22f7f8 (HEAD -> master, L7/mergetest, mergetest) mergetesting
* 646cf4c (L7/master) testing merge
* 82ea24c erge req
|
| * e78f82f (L7/hey, hey) merge req
| * 34210cf merge req
| * | 778e191 merge req
|/
* 9357b0c Merge branch 'test' -m"to learn merging"
|
| * 358da94 (L7/test, test) merge req
| * | ab6f736 (main) CA-1 PROGRAM
|/
* 7db621a (L7/test3, L7/test-2, L7/test-1) My fifth commit
* b60b4a7 my fourth commit
* 863eedd my third commit
* c66c587 my first c file
* 88f1a7c my first commit

```

## Session-06: Pull Requests and close in Github

```
Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~
$ cd gitjahnnavi

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/gitjahnnavi (master)
$ cd ..

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~
$ mkdir pullreq

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~
$ cd pullreq

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq
$ git init
Initialized empty Git repository in C:/Users/Jahnavi Krishnan/pullreq/.git/

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq (master)
$ git clone "https://github.com/JahnaviKrishnan/merge"
Cloning into 'merge'...
remote: Enumerating objects: 16, done.
remote: Counting objects: 100% (16/16), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 16 (delta 6), reused 14 (delta 4), pack-reused 0 (from 0)
Receiving objects: 100% (16/16), done.
Resolving deltas: 100% (6/6), done.

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq (master)
$ ls
merge/

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq (master)
$ cd merge

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ ls
text.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ vi text.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git add .

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git commit -m"suggested nothing"
[master 6be1ec2] suggested nothing
1 file changed, 1 insertion(+), 1 deletion(-)

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git remote -v
origin https://github.com/JahnaviKrishnan/merge (fetch)
origin https://github.com/JahnaviKrishnan/merge (push)

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git push -u merge master
fatal: 'merge' does not appear to be a git repository
fatal: Could not read from remote repository.
```

```
Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ ls
text.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ vi text.txt

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git add .

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git commit -m"suggested nothing"
[master 6be1ec2] suggested nothing
1 file changed, 1 insertion(+), 1 deletion(-)

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git remote -v
origin https://github.com/JahnaviKrishnan/merge (fetch)
origin https://github.com/JahnaviKrishnan/merge (push)

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git push -u merge master
fatal: 'merge' does not appear to be a git repository
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git remote add merge https://github.com/JahnaviKrishnan/merge.git

Jahnavi Krishnan@DESKTOP-E43511E MINGW64 ~/pullreq/merge (master)
$ git push -u merge master
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 295 bytes | 295.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/JahnaviKrishnan/merge.git
33d293a..6be1ec2 master -> master
branch 'master' set up to track 'merge/master'.
```

## IN GIT-HUB:

