

```
Student@HNNCE-29 MINGW64 ~ (master)
$ mkdir GitLab-1HC24CS058

Student@HNNCE-29 MINGW64 ~ (master)
$ cd GitLab-1HC24CS058

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git init
Initialized empty Git repository in c:/users/student/GitLab-1HC24CS058/.git/

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git config --global user.name "Prajwal-1HC24CS058"

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git config --global user.email "prajwal58@gmail.com"

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ echo "GitLab Program 1">gitlab-prgm-1.txt

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ cat gitlab-prgm-1.txt
GitLab Program 1

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git add gitlab-prgm-1.txt
warning: in the working copy of 'gitlab-prgm-1.txt', LF will be replaced by CRLF the next time git touches it

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   gitlab-prgm-1.txt

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git commit -m "add gitlab-prgm-1.txt in master branch"
[master (root-commit) e262bd1] add gitlab-prgm-1.txt in master branch
1 file changed, 1 insertion(+)
create mode 100644 gitlab-prgm-1.txt

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git status
On branch master
nothing to commit, working tree clean

Student@HNNCE-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git log
commit e262bd1031fa35775d7862f0f171ee6897253b53 (HEAD -> master)
Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>
Date: Thu Oct 30 14:38:40 2025 +0530

    add gitlab-prgm-1.txt in master branch
```

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Initialised empty git repository in C:/Users/Student/gitlab-
Student@HNNCE-29 MINGW64 / (master)

On branch master

No commits yet

Changes to be committed:

(use "git rm --cached <file>..." to unstage)

new file: git-prgm-1.txt

[master (root-commit) e262bd1] add gitlab-prgm-1.txt in master branch
1 file changed, 1 insertion(+)
create mode 100644 gitlab-prgm-1.txt

Experiment Number: 1

Date: 11/10/2025

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Setting Up and Basic Commands

Initialize a new git repository in a directory. create a new file and add it to the staging area and commit the changes with an appropriate commit message

Solution:

Step 1: To initialize git repository in a directory
\$ git init

Step 2: Create a new file and add it to staging area

\$ git add git-prgm-1.txt

To create/check status of git repository

\$ git status

Step 3: Commit the changes with an appropriate commit message. Replace "your commit message here" with meaningful description of your changes

\$ git commit -m "add git-prgm-1.txt into master/branch"

If author is not identified, have to configure email-id

\$ git config --global user.name "Pragwal-1H24CS058"

\$ git config --global user.email "pragwal58@gmail.com"

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Already on 'master'

switched to a new branch 'feature-branch'
Student@HUNCE-29 MINGW64 ~/gitlab-1HC2HCS058 (feature-branch)

[feature branch] 748a5b [added gitlab-prgm-2.txt to feature-branch
1 file changed, 1 inserted (+)
create mode 100644 gitlab-prgm-2.txt

Switched to branch 'master'

Student@HUNCE-29 MINGW64 ~/gitlab-1HC2HCS058 (master)

```

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git checkout master
Already on 'master'

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git checkout -b feature-branch
Switched to a new branch 'feature-branch'

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git checkout feature-branch
Already on 'feature-branch'

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ echo "gitlab Program 2 in feature branch">gitlab-prgm-2.txt

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ cat gitlab-prgm-2.txt
gitlab Program 2 in feature branch

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git status
On branch feature-branch
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    gitlab-prgm-2.txt

nothing added to commit but untracked files present (use "git add" to track)

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git add gitlab-prgm-2.txt
warning: in the working copy of 'gitlab-prgm-2.txt', LF will be replaced by CRLF the next time git touches it

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git add gitlab-prgm-2.txt

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git status
On branch feature-branch
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   gitlab-prgm-2.txt

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git commit -m "added gitlab-prgm-2 to feature branch"
[feature-branch 4748a5f] added gitlab-prgm-2 to feature branch
1 file changed, 1 insertion(+)
create mode 100644 gitlab-prgm-2.txt

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git status
On branch feature-branch
nothing to commit, working tree clean

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git log
commit 4748a5f71b2f620b888c29bc9227b0b82409dfc1 (HEAD -> feature-branch)
Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>
Date: Thu Oct 30 15:09:43 2025 +0530

    added gitlab-prgm-2 to feature branch

commit e262bd1031fa35775d7862f0f17ee689723b53 (master)
Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>
Date: Thu Oct 30 14:38:40 2025 +0530

```

```

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git log
commit 4748a5f71b2f620b888c29bc9227b0b82409dfc1 (HEAD -> feature-branch)
Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>
Date: Thu Oct 30 15:09:43 2025 +0530

    added gitlab-prgm-2 to feature branch

commit e262bd1031fa35775d7862f0f17ee689723b53 (master)
Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>
Date: Thu Oct 30 14:38:40 2025 +0530

    added gitlab-prgm-1.txt in master branch

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (feature-branch)
$ git checkout master
Switched to branch 'master'

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git merge feature-branch
Updating e262bd1..4748a5f
Fast-forward
  gitlab-prgm-2.txt | 1 +
  1 file changed, 1 insertion(+)
  create mode 100644 gitlab-prgm-2.txt

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$ git log
commit 4748a5f71b2f620b888c29bc9227b0b82409dfc1 (HEAD -> master, feature-branch)
Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>
Date: Thu Oct 30 15:09:43 2025 +0530

    added gitlab-prgm-2 to feature branch

commit e262bd1031fa35775d7862f0f17ee689723b53
Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>
Date: Thu Oct 30 14:38:40 2025 +0530

    added gitlab-prgm-1.txt in master branch

student@WINCC-29 MINGW64 ~/GitLab-1HC24CS058 (master)
$

```


Experiment Number : 2

Date : 16/10/25

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Creating and Managing Branches

Create a new branch named "feature-branch". Switch to the "master" branch. Merge "feature-branch" into master

Solution:

Step 1: Make sure that you are in master branch

```
$ git checkout master
```

Step 2: Create a new branch named 'feature-branch' and switch to it

```
$ git checkout -b feature-branch
```

Step 3: Make sure changes in feature-branch by adding/modifying/deleting files as needed.

```
$ echo "Gitlab Program No 2" > gitlab-prgm-2.txt
```

```
$ git add gitlab-prgm-2.txt
```

Step 4: Stage and commit your changes in the feature branch

```
$ git commit -m "added gitlab-prgm-2 to feature branch"
```

Step 5: Switch back to 'master' branch

```
$ git checkout master
```

Step 6: Merge the "feature branch" into the "master" branch

Updating e2b2bd1...4748a5f

*fast forward

gitlab-prgm-2.txt 11 +

1 file changed, 1 insertion(+)

create mode 100644 gitlab-prgm-2.txt

commit 4748a5f71..... (HEAD -> master, feature-branch)

Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>

Date: Thu Oct 30 15:09:43 2025 +0530

added gitlab-prgm-2 to feature branch

commit e262bd1031fa

Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>

Date: Thu Oct 30 16:38:40 2025 +0530

added gitlab-prgm-1.txt in master branch.

Updating e262bd1...4748a5b

*fast forward

gitlab-prgm-2.txt 11 +

1 file changed, 1 insertion(+)

create mode 100644 gitlab-prgm-2.txt

commit 4748a5b71.... (HEAD -> master, feature-branch)

Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>

Date: Thu Oct 30 15:09:43 2025 +0530

added gitlab-prgm-2 to feature branch

commit e262bd1031fa

Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>

Date: Thu Oct 30 14:38:40 2025 +0530

added gitlab-prgm-1.txt in master branch.

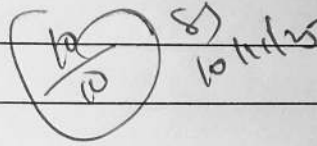
Experiment Number :

Date :

\$git merge feature-branch

to check logs.

\$git log



```

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (master)
$ git stash save "stash temporary storage on master branch"
No local changes to save

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (master)
$ echo "gitlab prgm 3 on master">gitlab-prgm-3.txt

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (master)
$ cat gitlab-prgm-3.txt
gitlab prgm 3 on master

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (master)
$ git add gitlab-prgm-3.txt
warning: in the working copy of 'gitlab-prgm-3.txt', LF will be replaced by CRLF the next time git touches it

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (master)
$ git add gitlab-prgm-3.txt

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   gitlab-prgm-3.txt

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (master)
$ git stash save "stash temporary storage on master branch"
Saved working directory and index state on master: stash temporary storage on master branch

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (master)
$ git stash apply
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   gitlab-prgm-3.txt

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (master)
$ git checkout feature-branch
A       gitlab-prgm-3.txt
Switched to branch 'feature-branch'

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (feature-branch)
$ git stash save "stash temporary storage on master branch"
Saved working directory and index state on feature-branch: stash temporary storage on master branch

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (feature-branch)
$ git stash apply
On branch feature-branch
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   gitlab-prgm-3.txt

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (feature-branch)
$ git status
On branch feature-branch
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   gitlab-prgm-3.txt

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (feature-branch)
$ git log
commit 4748a5f71b2f620b888c29bc9227b9b82409dfc1 (HEAD -> feature-branch, master)

```

```

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (feature-branch)
$ git log
commit 4748a5f71b2f620b888c29bc9227b9b82409dfc1 (HEAD -> feature-branch, master)
Author: Prajwal-1HC24C5058 <prajwal58@gmail.com>
Date: Thu Oct 30 15:09:43 2025 +0530

    added gitlab-prgm-2 to feature branch

commit e262bd1031fa35775d7862f0f17ee6897253b53
Author: Prajwal-1HC24C5058 <prajwal58@gmail.com>
Date: Thu Oct 30 14:38:40 2025 +0530

    add gitlab-prgm-1.txt in master branch

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (feature-branch)
$ git commit -m "add gitlab-prgm-3 to the feature branch"
(feature-branch 0eb82d) add gitlab-prgm-3 to the feature branch
1 file changed, 1 insertion(+)
create mode 100644 gitlab-prgm-3.txt

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (feature-branch)
$ git log
commit 0eb82d9f90224a365aafcf8d40b0b050ec223caa (HEAD -> feature-branch)
Author: Prajwal-1HC24C5058 <prajwal58@gmail.com>
Date: Thu Oct 30 15:44:01 2025 +0530

    add gitlab-prgm-3 to the feature branch

commit 4748a5f71b2f620b888c29bc9227b9b82409dfc1 (master)
Author: Prajwal-1HC24C5058 <prajwal58@gmail.com>
Date: Thu Oct 30 15:09:43 2025 +0530

    added gitlab-prgm-2 to feature branch

commit e262bd1031fa35775d7862f0f17ee6897253b53
Author: Prajwal-1HC24C5058 <prajwal58@gmail.com>
Date: Thu Oct 30 14:38:40 2025 +0530

    add gitlab-prgm-1.txt in master branch

student@HNICE-29 MINGW64 ~/GitLab-1HC24C5058 (feature-branch)
$ |

```

No local changes to save.

saved working directory and index stage on master: stash
temporary storage on master branch

on branch master

changes to be committed:

(use "git restore --staged <file>..." to unstage)

new file: qitlab-prgm-3.txt

^ qitlab-prgm-3.txt

switched to branch feature-branch'

Student@HNNCE-29 MINGW64 ~/qitlab-1HC24CS058 (feature-branch)

Experiment Number : 2

Date : 23/10/2025

Creating and Managing Branches

Write the command to stash changes, switch branches and then apply the stashed changes

stash - temporarily saves your changes to a "stash" so we can switch branches without committing or losing work

Solution: To stash changes, switch branches and then apply stashed changes in git, following commands are used

Step 1: Stash your changes. `$ git stash save "your message"`
`$ git stash save "stash temporary storage"`

Create and modify and then add a file using git add command called "gitlab-prgm-3.txt"

`$ git add gitlab-prgm-3.txt`

`$ git stash save "stash temporary storage" on master branch`

Apply the stash

`$ git stash apply`

Step 2: Switch to the desired branch

The desired branch here being feature branch

`$ git checkout feature-branch`

saved working directory and index stage on feature-branch.
stash temporary storage on feature-branch.

On branch feature-branch:

Changes to be committed:

(use "git restore --staged <file>..." to unstage)

new file: gitlab-prgm-3.txt

On branch feature-branch

Changes to be committed:

(use "git restore --staged <file>..." to unstage)

new file: gitlab-prgm-3.txt

[feature-branch 0e9b82b] add gitlab-prgm-3.txt to feature ^{branch} ~~ch~~
1 file changed, 1 insertion (+)
create mode 100644 gitlab-prgm-3.txt

commit 0e9b82b

HEAD -> feature-branch

Author: Prajwal-1HC24CS058 <prajwal58@gmail.com>

Date: Thu Oct 30 15:44:01 2025 +0530

add gitlab-prgm-3.txt to the feature branch.

Experiment Number : Date :

Step 3: Apply the stashed changes

\$ git stash save "stash temporary storage on feature branch"

\$ git stash apply

To check status

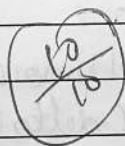
\$ git status

Since git-prgm-3.txt is not committed to git repository, it is not visible in the repository logs. So to commit

\$ git commit -m "add git-prgm-3.txt to feature branch"

To check logs.

\$ git log

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