

Ex. No: 2	Gitlab Operations using Git
06.08.2024	

Aim:

To practice fundamental Git operations using GitLab, including repository creation, cloning, making changes, branching, pushing changes, collaborating through merge requests, and syncing changes.

Procedure:

1. Create a Repository

The screenshot shows the 'Create blank project' page in GitLab. The left sidebar contains navigation links: Your work, Projects, Groups, Issues, Merge requests, To-Do List, Milestones, Snippets, Activity, Workspaces, Environments, Operations, Security, and Help. The main content area has a breadcrumb trail: Your work / Projects / New project / Create blank project. Below this is a 'Create blank project' section with a plus icon and a description: 'Create a blank project to store your files, plan your work, and collaborate on code, among other things.' The form includes:

- Project name:** A text input field containing 'lab2'. Below it is a note: 'Must start with a lowercase or uppercase letter, digit, emoji, or underscore. Can also contain dots, pluses, dashes, or spaces.'
- Project URL:** A text input field containing 'https://gitlab.com/ishareddyvaka/'.
- Project slug:** A text input field containing 'lab2'.
- Project deployment target (optional):** A dropdown menu with the text 'Select the deployment target'.
- Visibility Level:** Three radio buttons: 'Private' (unchecked), 'Internal' (unchecked), and 'Public' (checked). Below 'Public' is a note: 'The project can be accessed without any authentication.'
- Project Configuration:** A checkbox labeled 'Initialize repository with a README' which is checked. Below it is a note: 'Allows you to immediately clone this project's repository. Skip this if you plan to push up an existing repository.'

2. Cloning a Repository

- Use **git clone <repository_url>** with the URL you copied from GitLab

```
(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git clone https://gitlab.com/ishareddyvaka/lab2.git
Cloning into 'lab2'...
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 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.
```

3. Making Changes and Creating a Branch

- Navigate into the cloned repository

```
(base) ishareddyvaka@Ishas-MacBook-Air lab2 % cd lab2
```

- Create a new text file named "filename.txt" using a text editor.
- Add some content to the "filename.txt" file.
- Save the file and return to the command line.

- e. Check the status of the repository

```
[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git status
On branch main
Your branch is up to date with 'origin/main'.

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

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

- f. Stage the changes for commit
- g. Commit the changes with a descriptive message "Edited_example.txt"

```
[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git add .
[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git commit -m "Edited_example.txt"
[main 7bb73fe] Edited_example.txt
Committer: Isha reddy Vaka <ishareddyvaka@Ishas-MacBook-Air.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

1 file changed, 1 insertion(+)
create mode 100644 filename.txt
```

- h. Create a new branch named "feature"
- i. Switch to the "feature" branch
- j. Pushing Changes to GitLab

```
[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git checkout -b feature
Switched to a new branch 'feature'
```

```
[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git push origin feature
Username for 'https://gitlab.com': ishareddyvaka
Password for 'https://ishareddyvaka@gitlab.com':
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 328 bytes | 328.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: To create a merge request for feature, visit:
remote:   https://gitlab.com/ishareddyvaka/lab2/-/merge_requests/new?merge_request%5Bsource_branch%5D=feat
remote:
remote: To https://gitlab.com/ishareddyvaka/lab2.git
* [new branch]      feature -> feature
```

- 4. Add Repository URL in a variable
 - a. Add Repository URL in a variable
 - b. Replace <repository_url> with the URL you copied from GitLab
 - c. Push the "feature" branch to GitLab
 - d. Check your GitLab repository to confirm that the new branch "feature" is available.

```

[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git add .
[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git commit -m "Added repo URL"
[feature 44504ee] Added repo URL
Committer: Isha reddy Vaka <ishareddyvaka@Ishas-MacBook-Air.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

1 file changed, 1 insertion(+)
create mode 100644 Readme.txt
[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git push origin feature
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 342 bytes | 342.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: To create a merge request for feature, visit:
remote:   https://gitlab.com/ishareddyvaka/lab2/-/merge_requests/new?merge_request%5Bsource_branch%5D=feat
ure
remote:
To https://gitlab.com/ishareddyvaka/lab2.git
7bb73fe..44504ee feature -> feature

```

5. Collaborating through Merge Requests
 - a. Create a merge request on GitLab
 - b. Review and merge the merge request

The image shows two screenshots of the GitLab web interface. The top screenshot displays the 'Repository' page for 'Isha Reddy Vaka / lab2'. It features a 'Create merge request' button at the top. Below this, there's a table listing repository files: 'README.md' (Initial commit, 5 days ago), 'Readme.txt', and 'filename.txt' (Edited_example.txt, 30 minutes ago). The 'README.md' file is selected, showing its content which includes a heading 'lab2' and a section 'Getting started'. The bottom screenshot shows the 'Merge requests' page for the same repository. A merge request titled 'Features merge' is open, requested by 'Isha Reddy Vaka' to merge 'feature' into 'main'. The 'Overview' tab is active, showing a status of 'Ready to merge!'. It includes options to 'Delete source branch', 'Squash commits', and 'Edit commit message'. The 'Activity' section shows a log of actions: 'Isha Reddy Vaka requested review from @ishareddyvaka just now' and 'Isha Reddy Vaka assigned to @ishareddyvaka just now'. The right sidebar contains fields for 'Assignee' (Isha Reddy Vaka), 'Reviewer' (Isha Reddy Vaka), 'Labels' (None), 'Milestone' (None), and 'Time tracking' (No estimate or time spent).

Repository Page (Top Screenshot):

- Repository: Isha Reddy Vaka / lab2
- Buttons: Create merge request, Compare, History, Find file, Edit, Code
- Added repo URL: Isha reddy Vaka authored 1 minute ago (44584eeb)
- Table of Files:

Name	Last commit	Last update
README.md	Initial commit	5 days ago
Readme.txt		
filename.txt	Edited_example.txt	30 minutes ago

Merge Request Page (Bottom Screenshot):

- Repository: Isha Reddy Vaka / lab2
- Merge requests: 11
- Merge request title: Features merge
- Status: Open, Isha Reddy Vaka requested to merge feature into main just now
- Overview tab: 0 Commits, 0 Pipelines, 2 Changes
- Buttons: Edit, Code, Mark as done
- Approval: 8 votes, Approve (Approval is optional)
- Ready to merge! (2 commits and 1 merge commit will be added to main.)
- Options: ☒ Delete source branch, ☐ Squash commits, ☐ Edit commit message
- Activity:

- Isha Reddy Vaka requested review from @ishareddyvaka just now
- Isha Reddy Vaka assigned to @ishareddyvaka just now

Right Sidebar:

- Assignee: Isha Reddy Vaka (Edit)
- Reviewer: Isha Reddy Vaka (Edit)
- Labels: None (Edit)
- Milestone: None (Edit)
- Time tracking: No estimate or time spent (+)
- 1 Participant

gitlab.com/ishareddyvaka/lab2-/merge_requests/1

GrammarlyAutomated Driving...New foldertomorrows workRajendra Prasad U...1G To 5G – rewind...Virtual Reality | Co...Contrast limited a...>>

🔍 Search or go to...

Project

Pinned

Issues0

Merge requests1

Manage>

Plan>

Code>

Merge requests1

Repository

Branches

Commits

Tags

Repository graph

Compare revisions

🔗 Help

Isha Reddy Vaka / lab2 / Merge requests / 1

Features merge

EditCode⌵⋮

Merged

Isha Reddy Vaka requested to merge feature into main just now

Overview0

Commits-

Pipelines0

Changes2

Mark as done

👍0👎0😊

Approval is optional⌵

Merged by Isha Reddy Vaka just now

RevertCherry-pick

Merge details

- Changes merged into main with 3f3f9ffe.
- Deleted the source branch.

Activity

All activity⌵⌵

- Isha Reddy Vaka requested review from @ishareddyvaka just now
- Isha Reddy Vaka assigned to @ishareddyvaka just now
- Isha Reddy Vaka mentioned in commit 3f3f9ffe just now

Assignee

Isha Reddy VakaEdit

Reviewer

Isha Reddy VakaEdit

Labels

NoneEdit

Milestone

NoneEdit

Time tracking

No estimate or time spent⌵+

1 Participant

gitlab.com/ishareddyvaka/lab2-/tree/main

GrammarlyAutomated Driving...New foldertomorrows workRajendra Prasad U...1G To 5G – rewind...Virtual Reality | Co...Contrast limited a...>>

🔍 Search or go to...

Project

Issues0

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Manage>

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Merge requests0

Repository

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Repository graph

Compare revisions

Snippets

🔗 Help

Isha Reddy Vaka / lab2 / Repository

mainlab2+⌵

HistoryFind fileEdit⌵Code⌵

Merge branch 'feature' into 'main'...

Isha Reddy Vaka authored just now

3f3f9ffe🔗

Name	Last commit	Last update
📄 README.md	Initial commit	5 days ago
📄 Readme.txt	Added repo URL	8 minutes ago
📄 filename.txt	Edited_example.txt	38 minutes ago

📄 README.md

lab2

Getting started

To make it easy for you to get started with GitLab, here's a list of recommended next steps.

Already a pro? Just edit this README.md and make it your own. Want to make it easy? [Use the template at the bottom!](#)

Add your files

6. Syncing Changes

- a. After the merge request is merged, update your local repository

```
[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
(use "git push" to publish your local commits)
[(base) ishareddyvaka@Ishas-MacBook-Air lab2 % git pull origin main
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (1/1), 248 bytes | 124.00 KiB/s, done.
From https://gitlab.com/ishareddyvaka/lab2
* branch          main          -> FETCH_HEAD
  47ce47e..3f3f9ff  main          -> origin/main
Updating 7bb73fe..3f3f9ff
Fast-forward
 README.txt | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 README.txt
```

Result:

Therefore, we've successfully performed all the Gitlab operations using Git.