### Git assignment

• First of all clone repository and create index.html file in it manually and push that file to gitlab in main branch.

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~
$ git clone "https://gitlab.com/roima_2025_intern/gitlab_assignment.git"
Cloning into 'gitlab_assignment'...
info: please complete authentication in your browser...
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.
```

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (main)
$ git branch
* main

vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (main)
$ touch index.html

vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (main)
$ ls
README.md index.html
```

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (main)
$ git add .

vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (main)
$ git commit -m "Add index.html file"
[main 0117f4e] Add index.html file
   Committer: Vaghasiya <akshay.vaghasiya@dialogos.fi>
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:
```

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (main)
$ git push origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 22 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 320 bytes | 160.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://gitlab.com/roima_2025_intern/gitlab_assignment.git
   abfe11f..0117f4e main -> main
```

 Make some changes in index.html file in personal branch and push that code to remote repository.

```
<html>
<head>
</head>
</head>
<body>
dishant
prashant
nikhil
</body>
</html>

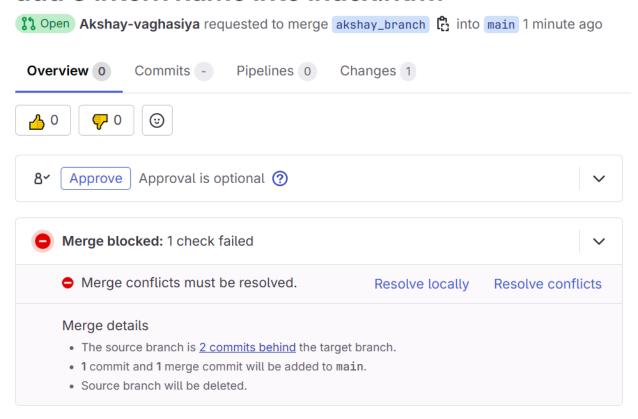
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (akshay_branch)
$ git add .
```

vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab\_assignment (akshay\_branch)

\$ git commit -m "add 3 intern name into index.html"

• Create pull request and see that conflict occur.

### add 3 intern name into index.html



 To solve this conflict I have done some changes in code means I have take both code.

# add 3 intern name into index.html

Akshay-vaghasiya requested to merge akshay\_branch contain 6 minutes ago

Showing 1 conflict

```
፱ index.html 🖰
   4
   5
      </head>
   6
      <body>
   7
   8
   9
      dishant
      prashant
  10
      nikhil
  11
  12
     zoha
  13
  14
     ramesh
      raju
  15
  16
      suresh
  17
      karishma
  18
  19
      </body>
      </html>
  20
  21
```

After push you can see that conflict is solve.

Merged by Akshay-vaghasiya 2 Revert Cherry-pick Delete source branch minutes ago

#### Merge details

- Changes merged into main with 7513aad1.
- Did not delete the source branch.

## **Activity**

All activity ∨ ↑=

- Akshay-vaghasiya added 4 commits 3 minutes ago
  - 93cd9ab5...d20cac96 3 commits from branch main
  - defe84bc Merge branch 'main' into 'akshay\_branch'

Compare with previous version

- Akshay-vaghasiya merged 2 minutes ago
- Akshay-vaghasiya mentioned in commit 7513aad1 2 minutes ago

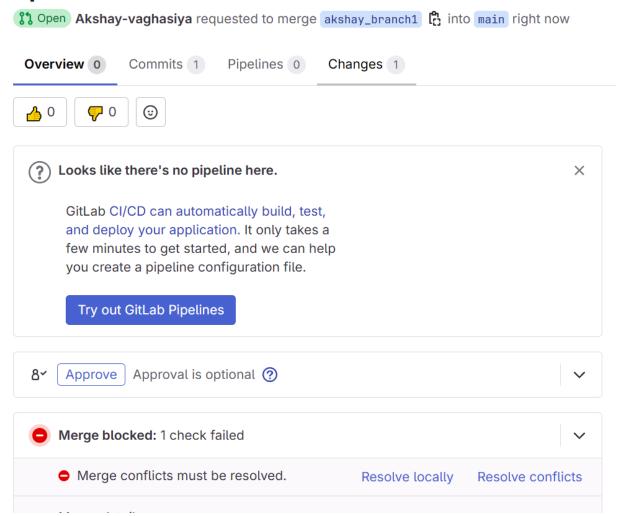
• For second conflict I have create one project because I get some error in first project and create one branch and modify code and also push that code in remote repository.

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/assignment (akshay2)
git checkout -b "akshay_branch1"
Switched to a new branch 'akshay_branch1'
/aghaaks@L10-VAGHAAKS-1 MINGW64 ~/assignment (akshay_branch1)
 git add .
 /aghaaks@L10-VAGHAAKS-1 MINGW64 ~/assignment (akshay_branch1)
$ git status
Dn branch akshay_branch1
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
         modified: index.html
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/assignment (akshay_branch1)
$ git commit -m "update intern details"
[akshay_branch1 45e9c10] update intern details
Committer: Vaghasiya <akshay.vaghasiya@dialogos.fi>
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:
    git config --global user.name "Your Name"
    git config --global user.email you@example.com
After doing this, you may fix the identity used for this commit with:
    git commit --amend --reset-author
 1 file changed, 5 insertions(+), 7 deletions(-)
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/assignment (akshay_branch1)
 git push -u origin akshay_branch1
Enumerating objects: 24, done.
Counting objects: 100% (24/24), done.
Delta compression using up to 22 threads
Compressing objects: 100% (18/18), done.
Writing objects: 100% (20/20), 2.44 KiB | 226.00 KiB/s, done.
Total 20 (delta 5), reused 13 (delta 2), pack-reused 0 (from 0)
remote:
remote: To create a merge request for akshay_branch1, visit:
remote: https://gitlab.com/roima_2025_intern/assignment/-/merge_requests/new?m
erge_request%5Bsource_branch%5D=akshay_branch1
remote:
To https://gitlab.com/roima_2025_intern/assignment.git
                        akshay_branch1 -> akshay_branch1
```

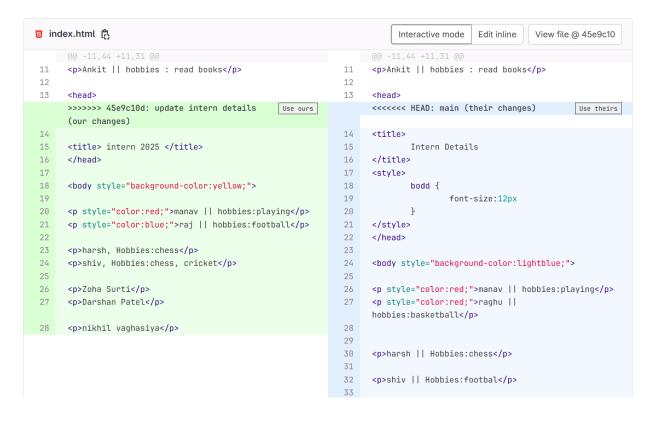
```
aghaaks@L10-VAGHAAKS-1 MINGW64 ~/assignment (akshay_branch1)
$ git pull origin main
remote: Enumerating objects: 22, done.
remote: Counting objects: 100% (22/22), done.
remote: Compressing objects: 100% (18/18), done.
remote: Total 18 (delta 9), reused 0 (delta 0), pack-reused 0 (from 0)
Jnpacking objects: 100% (18/18), 2.14 KiB | 24.00 KiB/s, done.
From https://gitlab.com/roima_2025_intern/assignment
                                     -> FETCH_HEAD
 * branch
                        main
   b38691e..6b1a4f3
                                      -> origin/main
                        main
Auto-merging index.html
CONFLICT (content): Merge conflict in index.html
Automatic merge failed; fix conflicts and then commit the result.
$ git add .
$ git commit -m "merge akshay_branch1 to main
[akshay_branch1 dcd4752] merge akshay_branch1 to main
Committer: Vaghasiya <akshay.vaghasiya@dialogos.fi>
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:
    git config --global user.name "Your Name"
    git config --global user.email you@example.com
After doing this, you may fix the identity used for this commit with:
    git commit --amend --reset-author
/aghaaks@L10-VAGHAAKS-1 MINGW64 ~/assignment (akshay_branch1)
$ git push origin akshay_branch1
enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 22 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 364 bytes | 182.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
emote: View merge request for akshay_branch1:
emote:
           https://gitlab.com/roima_2025_intern/assignment/-/merge_requests/29
emote:
To https://gitlab.com/roima_2025_intern/assignment.git
   45e9c10..dcd4752 akshay_branch1 -> akshay_branch1
```

• Create one pull request from frontend and see that conflict occur.

# update intern details

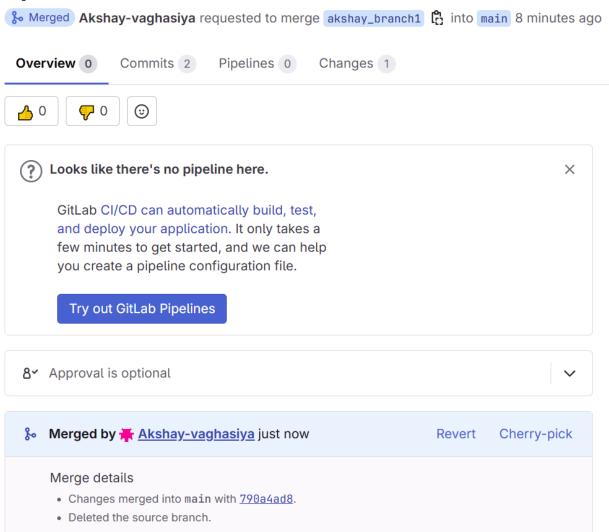


• Now see that part what I change and what is present in main branch and for resolve this conflict I take some changes from both the files.



• Now you can see conflict is solve and merge.

# update intern details



This is the output of what I made changes in above file.

zoha ramesh suresh parimal Divyang Akshay Vaghasiya || hobbies : play cricket Parth Patel || hobbies : listen music Ankit | hobbies : read books manav || hobbies:playing raj || hobbies:football harsh, Hobbies:chess shiv, Hobbies:chess, cricket Zoha Surti Darshan Patel nikhil vaghasiya Divyesh **Intern and Hobbies** Aryan | Hobbies:chess Viraj | Hobbies:gaming

How to delete a branch?

- What needs to be done when the remote repository declines a push?
  - o First pull data from the origin.

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (akshay_branch1)
$ git pull origin
remote: Enumerating objects: 42, done.
remote: Counting objects: 100% (42/42), done.
remote: Compressing objects: 100% (34/34), done.
remote: Total 34 (delta 21), reused 0 (delta 0), pack-reused 0 (from 0) Unpacking objects: 100% (34/34), 3.51 KiB | 22.00 KiB/s, done.
From https://gitlab.com/roima_2025_intern/gitlab_assignment
 * [new branch]
                         aryan12
                                           -> origin/aryan12
 + 1488286...b7bdfe1 branch_aryan -> origin/branch_aryan (forced update)
 * [new branch] branch_darshan -> origin/branch_darshan
   ba6841a..78f2ad4 darshan_branch -> origin/darshan_branch
   3d1ddd7..3b6ebfa main
                                            -> origin/main
* [new branch] zoha_branch2 -> origin/zoha_branch2
You asked to pull from the remote 'origin', but did not specify a branch. Because this is not the default configured remote
for your current branch, you must specify a branch on the command line.
```

Make changes and push changes

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (akshay_branch1)
$ git push origin
fatal: The current branch akshay_branch1 has no upstream branch.
To push the current branch and set the remote as upstream, use
    git push --set-upstream origin akshay_branch1
To have this happen automatically for branches without a tracking upstream, see 'push.autoSetupRemote' in 'git help config'.
```

#### What is .gitignore?

 In this file we can specifies which file ignore when we push code to remote repositories.

```
修 .gitignore
     # Logs
     logs
     *.log
     npm-debug.log*
     yarn-debug.log*
     yarn-error.log*
     pnpm-debug.log*
     lerna-debug.log*
     node_modules
11
      dist
12
     dist-ssr
13
     *.local
     # Editor directories and files
15
     .vscode/*
      !.vscode/extensions.json
17
     .idea
18
      .DS_Store
      *.suo
     *.ntvs*
21
      *.njsproj
      *.sln
23
      *.sw?
25
```

#### Git alias what, why is it need?

o When we want to set shortcut for git commands.

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (main)
$ git config --global alias.lol "log"

vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (main)
$ git lol
commit 3d1ddd791633a4b372bbb4b961cdb78450ff076b (HEAD -> main)
Merge: 8ad43af bf26372
Author: Zoha Surti <zoha.surati@roimaint.com>
Date: Mon Jan 27 11:39:02 2025 +0000
```

#### What is the difference between a git merge and a git rebase?

Merge is used for merging branches and preserving history.

Merged by Akshay-vaghasiya 2 Revert Cherry-pick Delete source branch minutes ago

Merge details

Changes merged into main with 7513aad1.

Did not delete the source branch.

### **Activity**

All activity ∨ ↑=

- Akshay-vaghasiya added 4 commits 3 minutes ago
  - 93cd9ab5...d20cac96 3 commits from branch main
  - defe84bc Merge branch 'main' into 'akshay\_branch'

Compare with previous version

- Akshay-vaghasiya merged 2 minutes ago
  - Akshay-vaghasiya mentioned in commit 7513aad1 2 minutes ago
    - Rebase is used for rewrites commit history

What is the difference between clone with SSH and HTTP/S.

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~
$ git clone "https://gitlab.com/roima_2025_intern/gitlab_assignment.git"
Cloning into 'gitlab_assignment'...
info: please complete authentication in your browser...
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.
```

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~
$ git clone "git@gitlab.com:zohasurti/versioncontrolassignment.git"
Cloning into 'versioncontrolassignment'...
remote: Enumerating objects: 29, done.
remote: Counting objects: 100% (16/16), done.
remote: Compressing objects: 100% (16/16), done.
remote: Total 29 (delta 7), reused 0 (delta 0), pack-reused 13 (from 1)
Receiving objects: 100% (29/29), 5.68 KiB | 387.00 KiB/s, done.
Resolving deltas: 100% (7/7), done.
```

What are ssh keys?

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/gitlab_assignment (main)
$ ssh-keygen -t rsa -b 4096 -C "akshayvaghasiya3636@gmail.com"
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/vaghaaks/.ssh/id_rsa):
Created directory '/c/Users/vaghaaks/.ssh'.
Enter passphrase for "/c/Users/vaghaaks/.ssh/id_rsa" (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/vaghaaks/.ssh/id_rsa
Your public key has been saved in /c/Users/vaghaaks/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:58u4sxKtH5W9LZmZjzslYemHeqPWeHZfTcNbZf68DUs akshayvaghasiya3636@gmail.com
The key's randomart image is:
+---[RSA 4096]----
             0+ .0.
         .S +o.o o+
         .+ +Boo*
        o. .+B+E.=
       o .++.B=.o+
```

How to configure ssh keys in git account.

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~
$ cd .ssh/

vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/.ssh
$ ls
id_rsa id_rsa.pub

vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/.ssh
$ eval "$(ssh-agent -s)"
Agent pid 2119

vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/.ssh
$ ssh-add ~/.ssh/id_rsa
Identity added: /c/Users/vaghaaks/.ssh/id_rsa (akshayvaghasiya3636@gmail.com)
```

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/.ssh
$ cat ~/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaClyc2EAAAADAQABAAACAQC1N6R1RPoOyIuuZONAh0VLMO1ljk0WA7gJcX1rXs+0
s+fGLwkS/yFRiro+L5LvSjkldwwDIgcrQI066SwFbrGrQ6kxkeni9uD731/5hxExwVV+Aq+vvddM96zZ
UqByG2uMVtW05G3qtqsQLJWvYGci6dvyHmn9niiPA1WQo6I9V4LNRHMt/7wNHRWh1NyR70K1wHrB6J0r
QZzdUQ/a5AUj34SWpjQCASrJtwelzfZltyNuXlhyGF9W2Cp/QZOz0tq7QOTd/Ytuzl/MFQDznYuTK3hM
wkCKj9IBnw480TYfe5G/WyzAOD1+PCcrLm/YCLp6iryIB0dJFYqzr83m2JGNotV+mORxtRmkgxhQnZSg
VGTasx4i8C8CdlxUkOPXEdyR/Qu5kbk62raE9C9BAlL0jxHp0moAXmrC9VrluEoqgPdn40ihogZqvd0c
Mq8uEewUfpdOTpkDBqYyc/txF5rGWLJDanqZDxJ9DhwP6PsrUk9EVfG9oFhkXLD9fFowPhmp2JbWe5Ux
J+PLPcRiOCSJnHbFGV1CiKAJpctiGr5OoU9BvdCJpOGAOSmcSx2Z//z9qjVDPKjNtG/q0afLQiK+h1vq
nsihzCK7L1IcfBbx5KFHitAxYqN9t0NfWw57VLCldzPst0hYQe9qTJrys6gkRv8bjY1n2yJMs5dApla3
aQ== akshayvaghasiya3636@gmail.com
```

#### **SSH Keys**

SSH keys allow you to establish a secure connection between your computer and GitLab. SSH fingerprints verify that the client is connecting to the correct host. Check the current instance configuration.



o SSH doesn't require repetitive authentication for every repository action.

- What is forking? Demonstrate by creating a fork.
  - Forking is the process of creating a copy of someone else's repository into your GitHub account. It allows you to make changes without affecting the original repository.

```
/aghaaks@L10-VAGHAAKS-1 MINGW64
$ git clone "https://gitlab.com/Akshay-vaghasiya/versioncontrolassignment.git" Cloning into 'versioncontrolassignment'...
remote: Enumerating objects: 29, done. remote: Counting objects: 100% (16/16), done. remote: Compressing objects: 100% (16/16), done.
remote: Total 29 (delta 7), reused 0 (delta 0), pack-reused 13 (from 1) Receiving objects: 100% (29/29), 5.68 KiB | 969.00 KiB/s, done.
Resolving deltas: 100% (7/7), done.
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~
$ cd versioncontrolassignment/
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/versioncontrolassignment (main)
$ git remote add upstream https://gitlab.com/zohasurti/versioncontrolassignment.
 vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/versioncontrolassignment (main)
$ git fetch upstream
From https://gitlab.com/zohasurti/versioncontrolassignment
    [new branch]
                            aryan_branch -> upstream/aryan_branch
                            darshan_branch -> upstream/darshan_branch
    [new branch]
     [new branch]
                            main
                                       -> upstream/main
    [new branch]
                            zoha_branch
                                               -> upstream/zoha_branch
```

- Your forked repository is connected to your remote origin. To stay updated with the original repository, you need to add a new remote pointing to the original repository.
- What is a force push, when should it be used and why would you need to?

```
vaghaaks@L10-VAGHAAKS-1 MINGW64 ~/versioncontrolassignment (main)
$ git push origin main --force
Everything up-to-date
```

- When you explicitly need to overwrite the remote branch.
- It is useful when cleaning up messy commits. It allows you to rewrite the history and correct push commits with error.