



Submitted to:-

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Section:-

5 A

Cloud Computing

LAB O3

Task 1 – Handling Local and Remote Commit Conflicts (Pull vs Pull --rebase)

Create a new repository

Repositories contain a project's files and version history. Have a project elsewhere? [Import a repository](#).

Required fields are marked with an asterisk (*).

1 General

Owner *



Repository name *

Lab3

Lab3 is available.

Great repository names are short and memorable. How about **ideal-carnival**?

Description

Working with git history, stashing and reverting commits

56 / 350 characters

2 Configuration

Choose visibility *

Choose who can see and commit to this repository

Public ▾

Off

Add README

READMEs can be used as longer descriptions. [About READMEs](#)

Add .gitignore

.gitignore tells git which files not to track. [About ignoring files](#)

No .gitignore ▾

Add license

Licenses explain how others can use your code. [About licenses](#)

No license ▾

Create repository

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop
$ git clone git@github.com:Hafsa-Khalid021/Lab3.git
Cloning into 'Lab3'...
warning: You appear to have cloned an empty repository.

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop
$ cd Lab3

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git config user.name "Hafsa-Khalid021"

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git config user.email "23-21511-008@emv.fjwu.edu.pk"

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git remote -v
origin git@github.com:Hafsa-Khalid021/Lab3.git (fetch)
origin git@github.com:Hafsa-Khalid021/Lab3.git (push)

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git branch --show-current
main
```

The screenshot shows a GitHub commit dialog for a repository named 'Lab3'. The 'Code' tab is selected, showing a single file 'README.md' with the following content:

```
1 # Lab3
2 Working with git history, stashing and reverting commits
3 This line was added remotely from GitHub.
```

Below the code editor, the 'Commit changes' section is open, showing the commit message field with the value 'Remote update to README.md'.

Lab3 /		
Go to file		Add file
 Hafsa-Khalid021	Remote update to README.md	d854637 · 2 minutes ago
Name	Last commit message	Last commit date
 README.md	Remote update to README.md	2 minutes ago
README.md		

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "This line was added locally" > README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add README.md
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/desktop/Lab3 (main)
$ git commit -m "Local update to README"
[main (root-commit) a67e36e] Local update to README
 1 file changed, 1 insertion(+)
 create mode 100644 README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git log --oneline -n3
a67e36e (HEAD -> main) Local update to README
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push origin main
To github.com:Hafsa-Khalid021/Lab3.git
 ! [rejected]      main -> main (fetch first)
error: failed to push some refs to 'github.com:Hafsa-Khalid021/Lab3.git'
hint: updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

```

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git pull --no-rebase origin main
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)
Unpacking objects: 100% (3/3), 965 bytes | 23.00 KiB/s, done.
From github.com:Hafsa-Khalid021/Lab3
 * branch           main      -> FETCH_HEAD
 * [new branch]     main      -> origin/main
fatal: refusing to merge unrelated histories

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push -u origin main
To github.com:Hafsa-Khalid021/Lab3.git
 ! [rejected]      main -> main (non-fast-forward)
error: failed to push some refs to 'github.com:Hafsa-Khalid021/Lab3.git'
hint: Updates were rejected because the tip of your current branch is behind
hint: its remote counterpart. If you want to integrate the remote changes,
hint: use 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git pull origin main --allow-unrelated-histories
From github.com:Hafsa-Khalid021/Lab3
 * branch           main      -> FETCH_HEAD
Auto-merging README.md
CONFLICT (add/add): Merge conflict in README.md
Automatic merge failed; fix conflicts and then commit the result.

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main|MERGING)
$ git push -u origin main
To github.com:Hafsa-Khalid021/Lab3.git
 ! [rejected]      main -> main (non-fast-forward)
error: failed to push some refs to 'github.com:Hafsa-Khalid021/Lab3.git'
hint: Updates were rejected because the tip of your current branch is behind
hint: its remote counterpart. If you want to integrate the remote changes,
hint: use 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.

```

```

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main|MERGING)
$ git status
On branch main
Your branch and 'origin/main' have diverged,
and have 1 and 1 different commits each, respectively.
  (use "git pull" if you want to integrate the remote branch with yours)

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 added: README.md

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

```

```

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main|MERGING)
$ notepad README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main|MERGING)
$ cat README.md
This line was added locally
This line was added remotely from GitHub.

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main|MERGING)
$ git add README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main|MERGING)
$ git commit -m "Resolved merge conflict in README.md"
[main 3a85bef] Resolved merge conflict in README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push -u origin main
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 594 bytes | 54.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:Hafsa-Khalid021/Lab3.git
  d854637..3a85bef main -> main
branch 'main' set up to track 'origin/main'.

```

The screenshot shows a GitHub commit dialog for a file named README.md in the main branch of a repository owned by Hafsa-Khalid021. The commit message is "Second Remote update to README.md". There is an optional extended description field which is currently empty. At the bottom, there are two radio button options: "Commit directly to the main branch" (selected) and "Create a new branch for this commit and start a pull request". The "Commit changes" button is highlighted in green.

Hafsa-Khalid021 / Lab3

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

Lab3 / README.md in main

Cancel changes Commit changes...

Edit Preview

1 This line was added locally
2 This line was added remotely from GitHub.
3 This line was added remotely again from GitHub.
4

Commit changes

Commit message
Second Remote update to README.md

Extended description
Add an optional extended description...

Commit directly to the main branch
 Create a new branch for this commit and start a pull request [Learn more about pull requests](#)

Cancel Commit changes

main ▾ Lab3 / README.md

Hafsa-Khalid021 Second Remote update to README.md

54d57f1 · now History

Preview Code Blame 3 lines (3 loc) · 118 Bytes

This line was added locally This line was added remotely from GitHub. This line was added remotely again from GitHub.

Commits

History for Lab3 / README.md on main	All users	All time
Commits on Oct 12, 2025		
Second Remote update to README.md Hafsa-Khalid021 authored now	Verified 54d57f1	
Resolved merge conflict in README.md Hafsa-Khalid021 committed 32 minutes ago	3a85bef	
Local update to README Hafsa-Khalid021 committed 1 hour ago	a67e36e	
Remote update to README.md Hafsa-Khalid021 authored 1 hour ago	Verified d854637	

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "This second line was added locally" > README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add README.md
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Local second update to README"
[main 177c0c6] Local second update to README
 1 file changed, 1 insertion(+), 3 deletions(-)

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git pull --rebase origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 972 bytes | 30.00 KiB/s, done.
From github.com:Hafsa-Khalid021/Lab3
 * branch            main      -> FETCH_HEAD
   3a85bef..54d57f1  main      -> origin/main
Auto-merging README.md
CONFLICT (content): Merge conflict in README.md
error: could not apply 177c0c6... Local second update to README
hint: Resolve all conflicts manually, mark them as resolved with
Local second update to README
```

```
[detached HEAD 4fecdfc] Local second update to README
 1 file changed, 3 insertions(+)
Successfully rebased and updated refs/heads/main.

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push -u origin main --force
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), 343 bytes | 68.00 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 github.com:Hafsa-Khalid021/Lab3.git
  54d57f1..4fecdfc main -> main
branch 'main' set up to track 'origin/main'.
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git log --oneline --graph --decorate -n 10
* 4fecdfc (HEAD -> main, origin/main) Local second update to README
* 54d57f1 Second Remote update to README.md
* 3a85bef Resolved merge conflict in README.md
|\ \
| * d854637 Remote update to README.md
* a67e36e Local update to README
```

Task 2 – Creating and Resolving Merge Conflicts Manually

The screenshot shows a GitHub commit history for a repository named 'Lab3'. The first commit, '4fecdfc', is a local update to 'README'. The second commit, '54d57f1', is a remote update from GitHub. A merge conflict occurred, indicated by the merge commit '3a85bef' which resolved the conflict in 'README.md'. The commit 'd854637' is another remote update. The final commit 'a67e36e' is a local update. The commit '4fecdfc' has 5 commits associated with it.

The screenshot shows the GitHub editor interface for the 'README' file. The file content is as follows:

```
1 This line was added locally
2 This line was added remotely from GitHub.
3 This second line was added locally
4 This line was updated remotely again.]
```

The editor includes standard GitHub features like 'Edit', 'Preview', and 'Commit changes...' buttons. The status bar indicates the file is in the 'main' branch.

Hafsa-Khalid021 Remote conflicting change

cd17f84 · now History

Preview Code Blame 8 lines (4 loc) · 147 Bytes ⌂

This line was added locally This line was added remotely from GitHub. This second line was added locally This line was updated remotely again.

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git branch
* main

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "This line was updated locally at the same time" > README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add README.md
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Local conflicting change"
[main 0721c68] Local conflicting change
 1 file changed, 1 insertion(+), 6 deletions(-)

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push -u origin main
To github.com:Hafsa-Khalid021/Lab3.git
 ! [rejected]      main -> main (fetch first)
error: failed to push some refs to 'github.com:Hafsa-Khalid021/Lab3.git'
hint: Updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git pull --rebase origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 963 bytes | 60.00 KiB/s, done.
From github.com:Hafsa-Khalid021/Lab3
 * branch            main      -> FETCH_HEAD
   4fecdf..cd17f84  main      -> origin/main
Auto-merging README.md
CONFLICT (content): Merge conflict in README.md
error: could not apply 0721c68... Local conflicting change
hint: Resolve all conflicts manually, mark them as resolved with
hint: "git add/rm <conflicted_files>", then run "git rebase --continue".
hint: You can instead skip this commit: run "git rebase --skip".
hint: To abort and get back to the state before "git rebase", run "git rebase --abort".
hint: Disable this message with "git config set advice.mergeConflict false"
Could not apply 0721c68... # Local conflicting change
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main|REBASE 1/1)
$ notepad README.md
```

```
[detached HEAD 9cf4c42] Local conflicting change  
 1 file changed, 2 insertions(+), 3 deletions(-)  
 successfully rebased and updated refs/heads/main.
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push -u origin main
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), 336 bytes | 336.00 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 github.com:Hafsa-Khalid021/Lab3.git
  cd17f84..9cf4c42 main -> main
branch 'main' set up to track 'origin/main'.
```

Task 3 – Managing Ignored Files with .gitignore and Removing Tracked Files

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ mkdir textfiles

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "File A content" > textfiles/a.txt

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "File B content" > textfiles/b.txt

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "File C content" > textfiles/c.txt

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add .
warning: in the working copy of 'textfiles/a.txt', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'textfiles/b.txt', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'textfiles/c.txt', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Added textfiles directory with three files"
[main 99f3677] Added textfiles directory with three files
 3 files changed, 3 insertions(+)
 create mode 100644 textfiles/a.txt
 create mode 100644 textfiles/b.txt
 create mode 100644 textfiles/c.txt

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push origin main
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 473 bytes | 157.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:Hafsa-Khalid021/Lab3.git
 9cf4c42..99f3677  main -> main
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "textfiles/*" > .gitignore

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add .gitignore
warning: in the working copy of '.gitignore', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Added .gitignore to ignore textfiles directory"
[main 2cf1d3d] Added .gitignore to ignore textfiles directory
 1 file changed, 1 insertion(+)
 create mode 100644 .gitignore

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push origin main
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), 360 bytes | 180.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:Hafsa-Khalid021/Lab3.git
 99f3677..2cf1d3d  main -> main
```

Lab3 Public

main 1 Branch 0 Tags Go to file Add file Code

Hafsa-Khalid021 Added .gitignore to ignore textfiles directory	2cf1d3d · 1 minute ago	9 Commits
textfiles	Added textfiles directory with three files	4 minutes ago
.gitignore	Added .gitignore to ignore textfiles directory	1 minute ago
README.md	Local conflicting change	24 minutes ago

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git rm -r --cached textfiles
rm 'textfiles/a.txt'
rm 'textfiles/b.txt'
rm 'textfiles/c.txt'

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add .

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Removed tracked textfiles directory"
[main c88177e] Removed tracked textfiles directory
 3 files changed, 3 deletions(-)
 delete mode 100644 textfiles/a.txt
 delete mode 100644 textfiles/b.txt
 delete mode 100644 textfiles/c.txt

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 251 bytes | 251.00 KiB/s, done.
Total 2 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:Hafsa-Khalid021/Lab3.git
 2cf1d3d..c88177e main -> main
```

Lab3 Public

main Branches Tags Add file Code

.gitignore	10 Commits
README.md	

Task 4 – Create Temporary Changes and Use git stash

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git checkout -b feature-branch
Switched to a new branch 'feature-branch'

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ echo "This is a test line for stash demo" > README.md
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ git commit -m "Changes thes README.md file"
[feature-branch 22ec766] Changes thes README.md file
 1 file changed, 1 insertion(+), 7 deletions(-)

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ echo "Adding more temporary lines that will be stashed" > README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ git checkout main
error: Your local changes to the following files would be overwritten by checkout:
      README.md
Please commit your changes or stash them before you switch branches.
Aborting
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ git stash
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it
Saved working directory and index state WIP on feature-branch: 22ec766 Changes thes README.md file
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git checkout feature-branch
switched to branch 'feature-branch'
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ git status
On branch feature-branch
nothing to commit, working tree clean
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ git stash pop
on branch feature-branch
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
    (use "git restore <file>..." to discard changes in working directory)
      modified:   README.md

no changes added to commit (use "git add" and/or "git commit -a")
Dropped refs/stash@{0} (479cda369ff2251ebbcccf97f5f6685b0aec2a7)
```

Task 5 – Checkout a Specific Commit Using git log

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git log --oneline
c88177e (HEAD -> main, origin/main) Removed tracked textfiles directory
2cf1d3d Added .gitignore to ignore textfiles directory
99f3677 Added textfiles directory with three files
9cf4c42 Local conflicting change
cd17f84 Remote conflicting change
4fecdfc Local second update to README
54d57f1 Second Remote update to README.md
3a85bef Resolved merge conflict in README.md
a67e36e Local update to README
d854637 Remote update to README.md
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git checkout 3a85bef
Note: switching to '3a85bef'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -c with the switch command. Example:

  git switch -c <new-branch-name>

or undo this operation with:

  git switch -
```

Turn off this advice by setting config variable advice.detachedHead to false

```
HEAD is now at 3a85bef Resolved merge conflict in README.md
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 ((3a85bef...))
$ git checkout main
Previous HEAD position was 3a85bef Resolved merge conflict in README.md
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
```

Task 6 – Resetting Commits (Soft vs Hard Reset) (With Verification Steps)

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git checkout main
M README.md
Already on 'main'
Your branch is up to date with 'origin/main'.

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "This is the first test line for reset" > README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add .
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Added test line"
[main c7e0708] Added test line
 1 file changed, 1 insertion(+), 7 deletions(-)
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "This is the second test line for reset" > README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add .
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Second test commit"
[main c7ea962] Second test commit
 1 file changed, 1 insertion(+), 1 deletion(-)
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git log --oneline
c7ea962 (HEAD -> main) Second test commit
c7e0708 Added test line
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ cat README.md
This is the first test line for reset
This is the second test line for reset
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git reset --soft HEAD~1
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git log --oneline
c7e0708 (HEAD -> main) Added test line
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ cat README.md
This is the first test line for reset
This is the second test line for reset
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Second test commit"
[main 0f6554b] Second test commit
 1 file changed, 1 insertion(+), 1 deletion(-)
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git log --oneline
c7e0708 (HEAD -> main) Added test line
c88177e (origin/main) Removed tracked textfiles directory
2cf1d3d Added .gitignore to ignore textfiles directory
99f3677 Added textfiles directory with three files
9cf4c42 Local conflicting change
cd17f84 Remote conflicting change
4fecdfc Local second update to README
54d57f1 Second Remote update to README.md
3a85bef Resolved merge conflict in README.md
a67e36e Local update to README
d854637 Remote update to README.md
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ cat README.md
This is the first test line for reset
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
```

Task 7 – Amending the Last Commit

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "This line is for amend test" >README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Fix log message"
On branch main
Your branch is ahead of 'origin/main' by 2 commits.
  (use "git push" to publish your local commits)

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
    (use "git restore <file>..." to discard changes in working directory)
      modified: README.md

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

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add .
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Fix log message"
[main 948dc04] Fix log message
 1 file changed, 1 insertion(+), 1 deletion(-)
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "This line is for amend test" >README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add .
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit --amend|
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git log --oneline
b9f7af9 (HEAD -> main) Fix log message
```

Task 8 – Reverting a Commit (Safe Undo on Remote Branch)

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ echo "temporary text" >> temp.txt

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git add .
warning: in the working copy of 'temp.txt', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git commit -m "Added temporary text file"
[main f76a28b] Added temporary text file
 1 file changed, 1 insertion(+)
 create mode 100644 temp.txt

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push origin main
Enumerating objects: 14, done.
Counting objects: 100% (14/14), done.
Delta compression using up to 4 threads
Compressing objects: 100% (8/8), done.
Writing objects: 100% (12/12), 1.15 KiB | 98.00 KiB/s, done.
Total 12 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), done.
To github.com:Hafsa-Khalid021/Lab3.git
   c88177e..f76a28b  main -> main
```

main		1 Branch	0 Tags	Go to file	t	Add file	<> Code
 Hafsa-Khalid021	Added temporary text file			f76a28b · 3 minutes ago	 14 Commits		
	.gitignore		Added .gitignore to ignore textfiles directory			1 hour ago	
	README.md		Fix log message			6 minutes ago	
	temp.txt		Added temporary text file			3 minutes ago	

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git log --oneline
f76a28b (HEAD -> main, origin/main) Added temporary text file
43d8e2d Fix log message
d9366a8 Fix log message
c7e0708 Added test line
c88177e Removed tracked textfiles directory
2cf1d3d Added .gitignore to ignore textfiles directory
99f3677 Added textfiles directory with three files
9cf4c42 Local conflicting change
cd17f84 Remote conflicting change
4fecdfc Local second update to README
54d57f1 Second Remote update to README.md
3a85bef Resolved merge conflict in README.md
a67e36e Local update to README
d854637 Remote update to README.md
```

```
[main 628b37b] Revert "Added temporary text file"
 1 file changed, 1 deletion(-)
 delete mode 100644 temp.txt
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git push origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 271 bytes | 271.00 KiB/s, done.
Total 2 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:Hafsa-Khalid021/Lab3.git
  f76a28b..628b37b  main -> main
```

Lab3 Public

Pin Watch 0

main 1 Branch 0 Tags Go to file Add file Code

Hafsa-Khalid021 Revert "Added temporary text file" ... 628b37b · 2 minutes ago 15 Commits

.gitignore Added .gitignore to ignore textfiles directory 1 hour ago

README.md Fix log message 8 minutes ago

Task 9 – Force Push (With Caution)

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git checkout -b test-force
switched to a new branch 'test-force'
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (test-force)
$ echo "This line is for force push demo" > README.md

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (test-force)
$ git add .
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (test-force)
$ git commit -m "Added a line for force push test"
[test-force 999b32a] Added a line for force push test
 1 file changed, 1 insertion(+), 1 deletion(-)
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (test-force)
$ git push origin test-force
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), 335 bytes | 335.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'test-force' on GitHub by visiting:
remote:     https://github.com/Hafsa-Khalid021/Lab3/pull/new/test-force
remote:
To github.com:Hafsa-Khalid021/Lab3.git
 * [new branch]      test-force -> test-force
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (test-force)
$ git reset --hard HEAD~1
HEAD is now at 628b37b Revert "Added temporary text file"

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (test-force)
$ git push origin test-force
To github.com:Hafsa-Khalid021/Lab3.git
 ! [rejected]      test-force -> test-force (non-fast-forward)
error: failed to push some refs to 'github.com:Hafsa-Khalid021/Lab3.git'
hint: updates were rejected because the tip of your current branch is behind
hint: its remote counterpart. If you want to integrate the remote changes,
hint: use 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (test-force)
$ git push origin test-force --force
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:Hafsa-Khalid021/Lab3.git
 + 999b32a...628b37b test-force -> test-force (forced update)
```

Task 10 – Running Gitea in GitHub Codespaces via Docker Compose

Create a new fork

A *fork* is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project. [View existing forks.](#)

Required fields are marked with an asterisk (*).

Owner *



Hafsa-Khalid021

Repository name *

/ gitea

gitea is available.

By default, forks are named the same as their upstream repository. You can customize the name to distinguish it further.

Description

Git with a cup of tea! Painless self-hosted all-in-one software development service, including Git hosting, code

167 / 350 characters

Copy the `main` branch only

Contribute back to go-gitea/gitea by adding your own branch. [Learn more.](#)

You are creating a fork in your personal account.

Create fork

to file



Add file

<> Code

Local

Codespaces

Codespaces

Your workspaces in the cloud



...

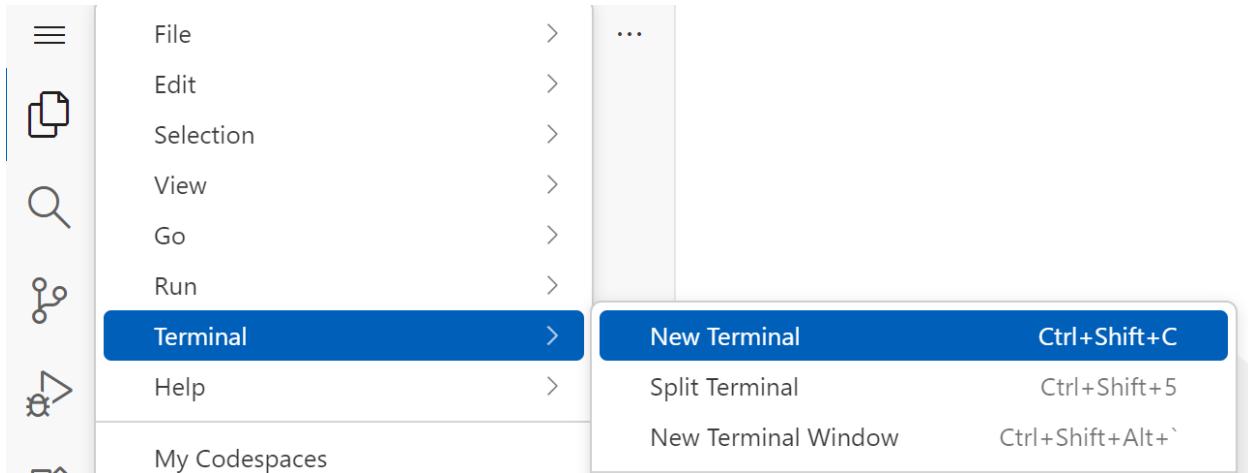
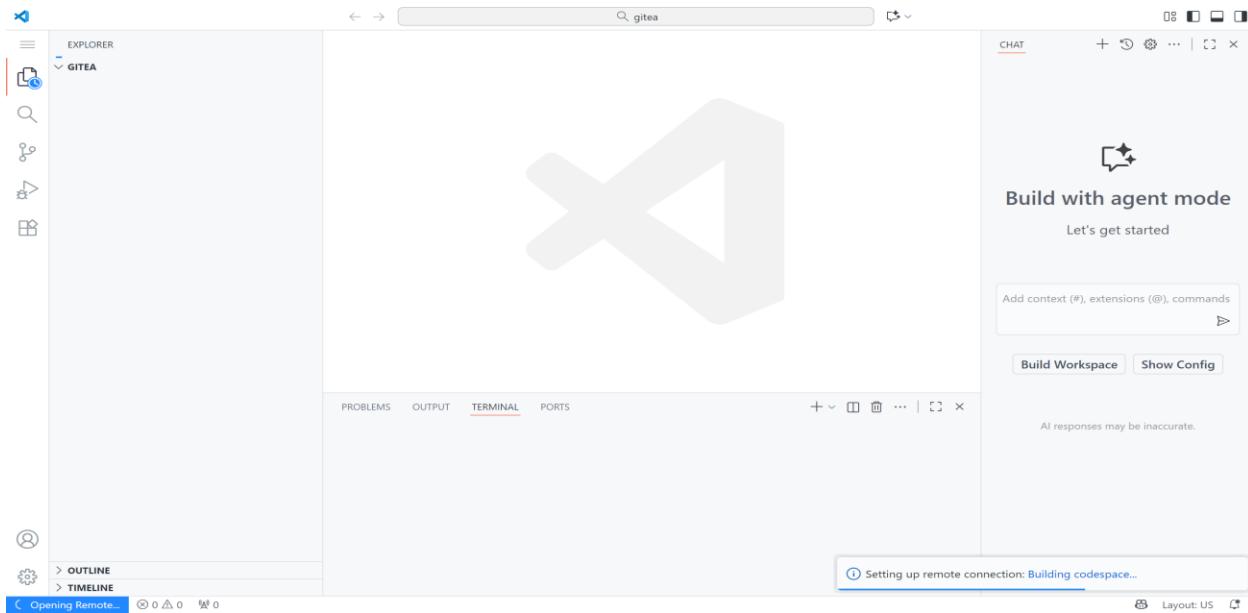
No codespaces

You don't have any codespaces with this repository checked out

Create codespace on main

[Learn more about codespaces...](#)

Codespace usage for this repository is paid for by **Hafsa-Khalid021**.



CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
591c087e2a37	gitea/gitea:latest	"/usr/bin/entrypoint..."	About a minute ago	Up About a minute	0.0.0.0:3000->3000/tcp, [::]:3000->3000/tcp, 0.0.0.0:222->22/tcp, [::]:222->22/tcp gitea-codespace-gitea-1
NAMES					

PROBLEMS	OUTPUT	DEBUG CONSOLE	TERMINAL	PORTS 2	[] X
Port	Forwarded Add...	Running Process		Visibility	Origin
● 222	https://ubiquitou...	/usr/bin/docker-proxy -proto tcp -hos...	🔒 Private	Auto Forwarded	
● 3000	🔗 X https://... 🔍	/usr/bin/docker-proxy -proto tcp -hos...	🔒 Private	Auto Forwarded	

Add Port

Initial Configuration

If you run Gitea inside Docker, please read the [documentation](#) before changing any settings.

Database Settings

Gitea requires MySQL, PostgreSQL, MSSQL, SQLite3 or TiDB (MySQL protocol).

Database Type *	SQLite3
Path *	/data/gitea/gitea.db
	File path for the SQLite3 database. Enter an absolute path if you run Gitea as a service.

General Settings

Site Title *	Gitea Assignment
	You can enter your company name here.
Repository Root Path *	/data/git/repositories
	Remote Git repositories will be saved to this directory.
Git LFS Root Path	/data/git/lfs
	Files tracked by Git LFS will be stored in this directory. Leave empty to disable.
Run As Username *	git
	The operating system username that Gitea runs as. Note that this user must have access to the repository root path.
Server Domain *	ubiquitous-giggle-x5g5gg6w6v5v3p6q4-3000.app.github.dev
	Domain or host address for the server.
SSH Server Port	22
	Port number your SSH server listens on. Leave empty to disable.
Gitea HTTP Listen Port *	3000
	Port number the Giteas web server will listen on.

Gitea Base URL *

Base address for HTTP(S) clone URLs and email notifications.

Log Path *

Log files will be written to this directory.

Enable Update Checker

Checks for new version releases periodically by connecting to gitea.io.

Optional Settings

► Email Settings

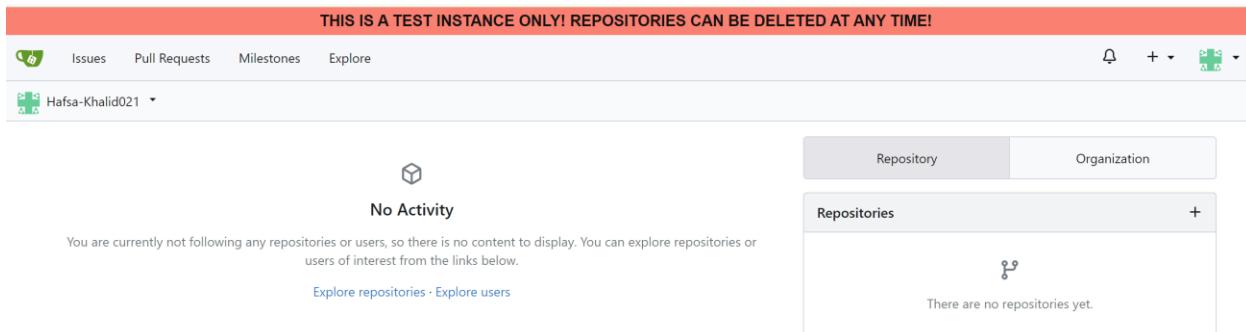
► Server and Third-Party Service Settings

► Administrator Account Settings

These configuration options will be written into: 

Install Gitea

THIS IS A TEST INSTANCE ONLY! REPOSITORIES CAN BE DELETED AT ANY TIME!



The screenshot shows the Gitea interface after installation. At the top, there's a navigation bar with links for Issues, Pull Requests, Milestones, and Explore. On the right side of the nav bar are icons for search, user profile, and settings. Below the nav bar, a user profile for 'Hafsa-Khalid021' is shown. The main content area has a heading 'No Activity' with a note: 'You are currently not following any repositories or users, so there is no content to display. You can explore repositories or users of interest from the links below.' Below this, there are links to 'Explore repositories' and 'Explore users'. To the right, there's a sidebar titled 'Repositories' with a sub-section for 'Repositories'. It displays a message: 'There are no repositories yet.'

New Repository

A repository contains all project files, including revision history. Already hosting one elsewhere? [Migrate repository](#).

Owner *



Hafsa-Khalid021



Some organizations may not show up in the dropdown due to a maximum repository count limit.

Repository Name *

CC-Hafsa-Khalid021

Good repository names use short, memorable and unique keywords. A repository named ".profile" or ".profile-private" could be used to add a README.md for the user/organization profile.

Visibility

Make repository private

Only the owner or the organization members if they have rights, will be able to see it.

Description

Gitea Assignment by Hafsa Khalid (2023-BSE-021)

Template

Select a template.

Issue Labels

Select an issue label set.

.gitignore

Select .gitignore templates.

Choose which files not to track from a list of templates for common languages. Typical artifacts generated by each language's build tools are included on .gitignore by default.

Hafsa-Khalid021 / CC-Hafsa-Khalid021

Code Issues Pull Requests Actions Packages Projects Releases Wiki Activity

Unwatch 1 Star 0 Fork 0 Settings

1 Commit 1 Branch 0 Tags

main Go to file Add File

Hafsa-Khalid021 d7cf48ff28 Initial commit 1 minute ago

README.md Initial commit 1 minute ago

README.md

CC-Hafsa-Khalid021

Gitea Assignment by Hafsa Khalid (2023-BSE-021)

Description

Gitea Assignment by Hafsa Khalid (2023-BSE-021)

Manage Topics

Readme 28 kB

Search code...

Hafsa-Khalid021 b524be4fb2 Update README.md now

110 B

[Raw](#) [Permalink](#) [Blame](#) [History](#)

CC-Hafsa-Khalid021

Name : Hafsa Khalid Reg no : 2023-BSE-021 Gitea Assignment by Hafsa Khalid (2023-BSE-021)

Hafsa-Khalid021 / CC-Hafsa-Khalid021

[Code](#) [Issues](#) [Pull Requests](#) [Actions](#) [Packages](#) [Projects](#) [Releases](#) [Wiki](#) [Activity](#)

2 Commits 1 Branch 0 Tags

[main](#) [Go to file](#) [Add File](#) [Code](#)

Hafsa-Khalid021 b524be4fb2 Update README.md

[README.md](#) Update README.md

[README.md](#)

CC-Hafsa-Khalid021

Name : Hafsa Khalid Reg no : 2023-BSE-021 Gitea Assignment by Hafsa Khalid (2023-BSE-021)

[Clone](#)

[HTTPS](#) [SSH](#) [Tea CLI](#)

[Open with VS Code](#)

[Open with VSCode](#)

[Open with IntelliJ IDEA](#)

[Download ZIP](#)

[Download TAR.GZ](#)

[Download BUNDLE](#)

Task 11 – Creating a GitHub Pages Portfolio Site

You unlocked new Achievements with private contributions! Show them off by including private contributions in your Profile in [settings](#).

Popular repositories

Lab1 Cloud Computing Labs	Public	CC-Hafsa-021 Cloud Computing Labs	Public
Lab3 Working with git history, stashing and reverting commits	Public	gitea Forked from go-gitea/gitea	Public
assignment-1	Public	Hafsa-Khalid021.github.io	Public

Profile Summary

Hafsa-Khalid021

[Edit profile](#)

Joined last week

Customize your pins

> This PC > Desktop > Portfolio >

Name	Date modified	Type	Size
index.html	10/14/2025 9:21 AM	File folder	
style.css	10/14/2025 9:21 AM	Cascading Style Sheet	2 KB

```
PS C:\Users\HP\Desktop\Portfolio> git init
Initialized empty Git repository in C:/Users/HP/Desktop/Portfolio/.git/
PS C:\Users\HP\Desktop\Portfolio> git remote add origin https://github.com/Hafsa-Khalid021/Hafsa-Khalid021.github.io.git
PS C:\Users\HP\Desktop\Portfolio> git add .
PS C:\Users\HP\Desktop\Portfolio> git commit -m "Add portfolio site for GitHub Pages"
>>
[master (root-commit) 4d2fc40] Add portfolio site for GitHub Pages
 3 files changed, 236 insertions(+)
  create mode 100644 index.html/index.html
  create mode 100644 index.html/style.css
  create mode 100644 style.css
PS C:\Users\HP\Desktop\Portfolio> git branch -M main
>> git push -u origin main
>>
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 1.74 KiB | 446.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Hafsa-Khalid021/Hafsa-Khalid021.github.io.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
```

Go to Settings -> Pages

The screenshot shows the GitHub repository settings page for 'Hafsa-Khalid021'. The 'General' tab is selected. On the left, there's a sidebar with various repository management options like Access, Collaborators, and Code and automation. The main area displays the repository name 'Hafsa-Khalid021.github.io' and its URL. It also includes sections for 'Template repository' (unchecked), 'Require contributors to sign off on web-based commits' (unchecked), and 'Default branch' (set to 'main'). A 'Releases' section is also visible at the bottom.

GitHub Pages

[GitHub Pages](#) is designed to host your personal, organization, or project pages from a GitHub repository.

Your site is live at <https://hafsa-khalid021.github.io/>

Last [deployed](#) by  Hafsa-Khalid021 21 minutes ago

[Visit site](#)

[Unpublish site](#)

Hafsa Khalid

Software Engineering Student | Fatima Jinnah Women University

About Me

I am a passionate Software Engineering student (2023 - Present) who loves programming, building projects, and learning new technologies. I am focused on improving my skills in data structures, networking, and database management.

Education

- **Software Engineering** - Fatima Jinnah Women University (2023 - Present)
- **FSc** - Fazaia Inter College (2020 - 2022)
- **Matriculation** - Fazaia Inter College (2018 - 2020)

Projects

<https://hafsa-khalid021.github.io/>