



Submitted to:-

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2023-BSE-021

Section:-

5 A

Cloud Computing

LAB 03

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 *

 Hafsa-Khalid021 ▾

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 ▾

Add README

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

Off ☐

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
```

Hafsa-Khalid021 / Lab3

Q Type to search

& + ↻ 🔍

[Code](#) [Issues](#) [Pull requests](#) [Actions](#) [Projects](#) [Wiki](#) [Security](#) [Insights](#) [Settings](#)

Lab3 / README.md in main

Cancel changes Commit changes...

Edit Preview

Spaces 2 No wrap

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

Commit changes


Commit message

Remote update to README.md


Extended description


Add an optional extended description...


Cancel Commit changes

 main ▾ Lab3 /

Go to file 🔍 Add file ▾ ⋮

 Hafsa-Khalid021 Remote update to README.md d854637 · 2 minutes ago History

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'.

```

Hafsa-Khalid021 / Lab3

Q

Type to search

+

<>

Code

Issues

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings

Lab3 / README.md in main

Cancel changes Commit changes...

Edit Preview

Spaces 2 Soft wrap

```

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

Lab3 / README.md

Hafsa-Khalid021 Second Remote update to README.md 54d57f1 · now History

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

Raw

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

Copy icon Download icon Compare icon

Resolved merge conflict in README.md

Hafsa-Khalid021 committed 32 minutes ago

3a85bef

Copy icon Download icon Compare icon

Local update to README

Hafsa-Khalid021 committed 1 hour ago

a67e36e

Copy icon Download icon Compare icon

Remote update to README.md

Hafsa-Khalid021 authored 1 hour ago

Verified

d854637

Copy icon Download icon Compare icon

```
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


 Hafsa-Khalid021 Local second update to README


4fecdfc · 3 hours ago 5 Commits

 README.md

Local second update to README

3 hours ago

 README



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

Lab3 / README.md in main

Cancel changes Commit changes...

Edit Preview

Spaces 2 Soft wrap

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


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
 4fecdfc..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
```



```
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
```

main 1 Branch 0 Tags

Go to file

t

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
```

main Branches Tags

Add file

<> Code

10 Commits

.gitignore

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

HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (feature-branch)
$ 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 (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 main 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} (479cda369ff2251ebbccc9f7f5f6685b0aeca2a7)

```

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
```




Lab3 Public



main

1 Branch 0 Tags

Go to file



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
```

```
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git revert f76a28b
```

```
Revert "Added temporary text file"
```

```
This reverts commit f76a28bf8c1c49a63299217f9e3ae08041dd4e79.
```

```
# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# on branch main
# Your branch is up to date with 'origin/main'.
#
# changes to be committed:
#   deleted:    temp.txt
#
```

```
~/git/COMMIT_EDITMSG [unix] (16:53 12/10/2025)
```

```
~/Desktop/Lab3/~/git/COMMIT_EDITMSG" [unix] 13L, 355B
```

```
[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 is available.

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

Description

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

t

Add file ▾

<> Code ▾

Local

Codespaces

Codespaces

Your workspaces in the cloud

+ ...

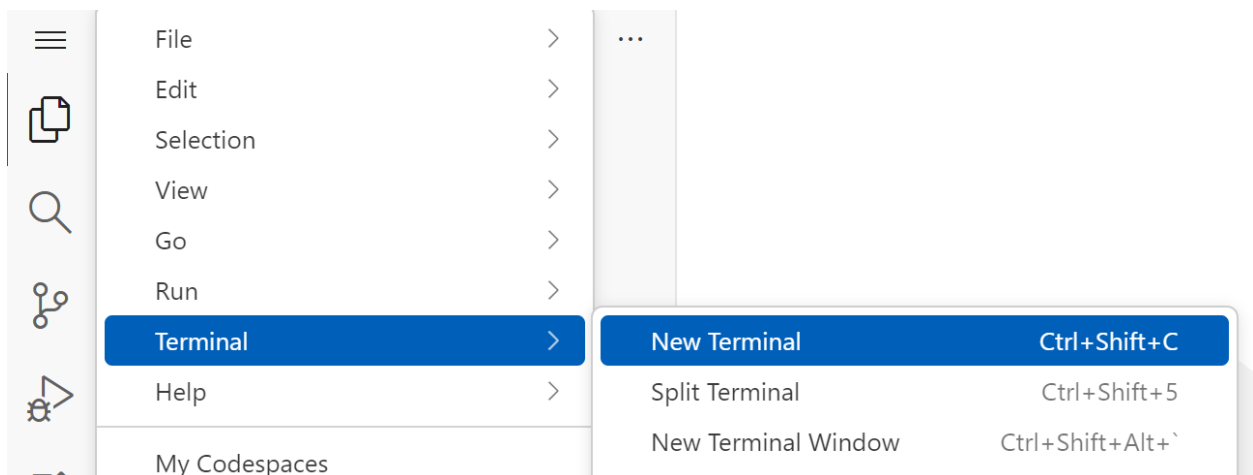
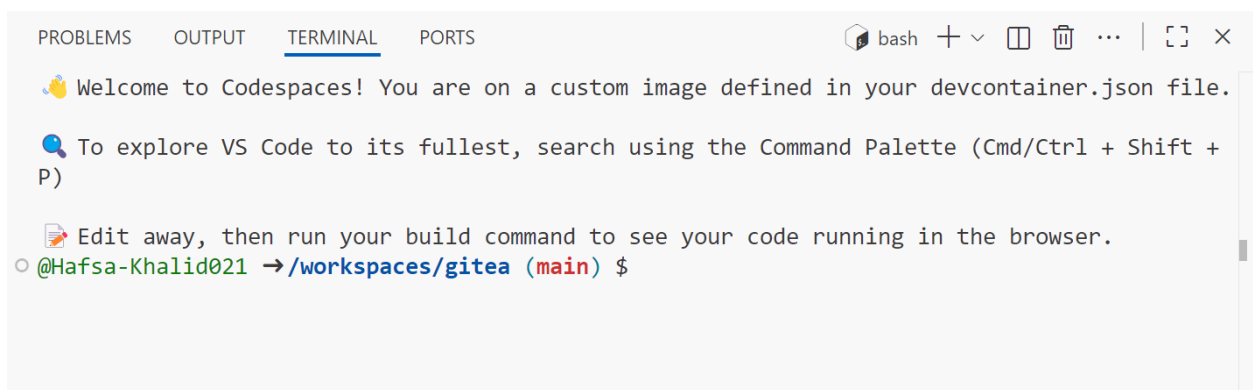
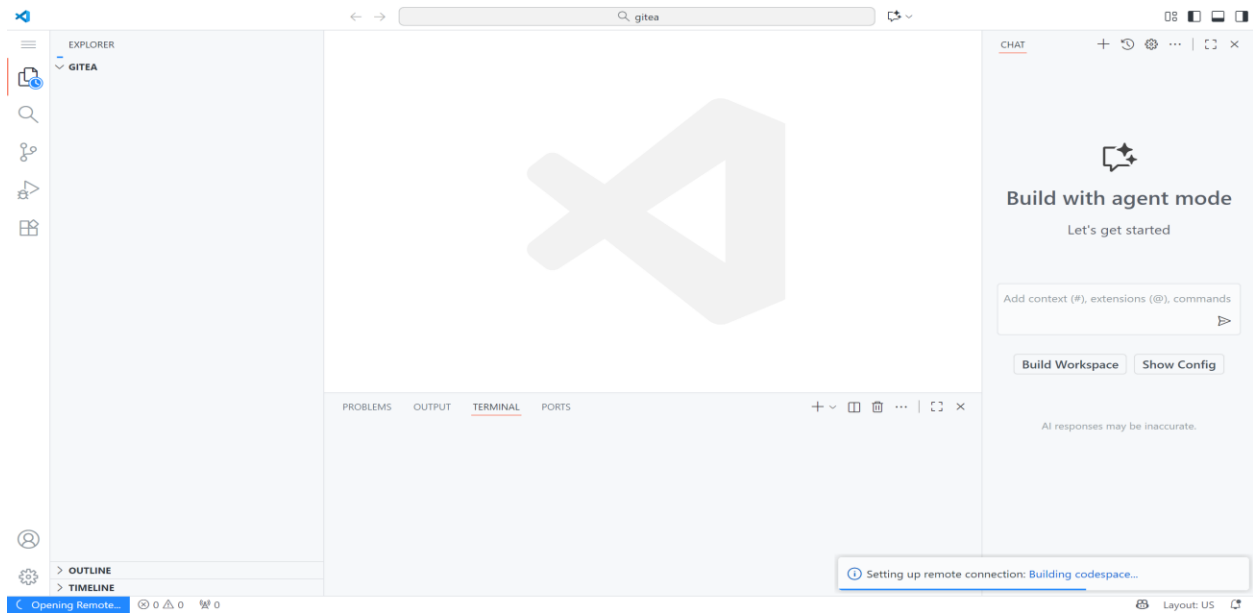
No codespaces

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

Port	Forwarded Address	Running Process	Visibility	Origin
222	https://ubiquitous...	/usr/bin/docker-proxy -proto tcp -hos...	Private	Auto Forwarded
3000	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 *

`https://ubiquitous-giggle-x5g5gg6w6v5v3p6q4-3000.app.github.dev/`

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

Log Path *

`/data/gitea/log`

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: `/data/gitea/conf/app.ini` 

Install Gitea

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



Issues

Pull Requests

Milestones

Explore



Hafsa-Khalid021



No Activity

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.

[Explore repositories](#) · [Explore users](#)

Repository

Organization

Repositories



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

Unwatch 1 Star 0 Fork 0

<> Code Issues Pull Requests Actions Packages Projects Releases Wiki Activity

Settings

1 Commit

1 Branch

0 Tags

Search code...



main



Go to file

Add File

<> Code



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 KiB

Hafsa-Khalid021b524be4fb2Update README.mdnow

110 B<>RawPermalinkBlameHistory

CC-Hafsa-Khalid021

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

Hafsa-Khalid021 / CC-Hafsa-Khalid021

<> CodeIssuesPull RequestsActionsPackagesProjectsReleasesWikiActivity

2 Commits1 Branch0 Tags

mainGo to fileAdd File<> Code

Hafsa-Khalid021b524be4fb2Update README.md

README.mdUpdate README.md

README.md

CC-Hafsa-Khalid021

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

CloneHTTPSSSHTea CLIhttps://demo.gitea.com/Hafsa-Khalid021/CC-Hafsa-Khalid021Open with VS CodeOpen with VSCodiumOpen with IntelliJ IDEADownload ZIPDownload TAR.GZDownload BUNDLE

Task 11 – Creating a GitHub Pages Portfolio Site



Hafsa-Khalid021

Edit profile

Joined last week

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

Git with a cup of tea! Painless self-hosted all-in-one software development service, including Git hosting, code review, team collaboration, package registry and CI/CD

Go

Public

assignment-1

Public

Hafsa-Khalid021.github.io

Public

› 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 Shee...	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

Hafsa-Khalid021 / Hafsa-Khalid021.github.io

Q Type 17 to search

+

<> Code

Issues

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings

General

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

Models

Webhooks

Copilot

Environments

Codespaces

Pages

General

Repository name

Hafsa-Khalid021.github.io

Rename

☐ Template repository

Template repositories let users generate new repositories with the same directory structure and files. [Learn more about template repositories.](#)

☐ Require contributors to sign off on web-based commits

Enabling this setting will require contributors to sign off on commits made through GitHub's web interface. Signing off is a way for contributors to affirm that their commit complies with the repository's terms, commonly the [Developer Certificate of Origin \(DCO\)](#). [Learn more about signing off on commits.](#)

Default branch

The default branch is considered the "base" branch in your repository, against which all pull requests and code commits are automatically made, unless you specify a different branch.

main

Releases

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/>