



Cloud Computing Lab

Lab #3

Submitted to:

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Reg no:

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Section:

A

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

1 General

Owner * Repository name *

HaniaAkbar CC_Lab3 ✓ CC_Lab3 is available.

Great repository names are short and memorable. How about **turbo-spoon**?

Description

0 / 350 characters

2 Configuration

Choose visibility *

Public

Add README

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

Add .gitignore

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

Add license

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

Create repository

HaniaAkbar / CC_Lab3

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

CC_Lab3 / README.md in main

Cancel changes Commit changes...

Edit Preview

```
1 This line was added remotely from Github.  
2
```

CC_Lab3 /

HaniaAkbar Create README.md

Name	Last commit message	Last commit date
README.md	Create README.md	now

This line was added remotely from GitHub.

```
DELL@DESKTOP-KR710CM MINGW64 ~ (master)
$ git clone https://github.com/HaniaAkbar/CC_Lab3
Cloning into 'CC_Lab3'...
warning: You appear to have cloned an empty repository.
```

```
DELL@DESKTOP-KR710CM MINGW64 ~ (master)
$ |
```

```
DELL@DESKTOP-KR710CM MINGW64 ~ (master)
$ git add README.md
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

DELL@DESKTOP-KR710CM MINGW64 ~ (master)
$ git commit -m "This line was added locally."
[master 2d92a3e] This line was added locally.
 1 file changed, 1 insertion(+), 1 deletion(-)

DELL@DESKTOP-KR710CM MINGW64 ~ (master)
```

```
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 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 repository interface. The top navigation bar includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. Below the navigation, a breadcrumb trail shows 'Lab3 / README.md in main'. On the right side of the editor, there are buttons for 'Cancel changes' and 'Commit changes...'. The code editor itself displays the following content:

```

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

```

Below the code editor, there are buttons for 'Edit' and 'Preview' and a 'Spaces' dropdown set to 2.

The screenshot shows a 'Commit changes' dialog box. At the top, it says 'Commit message' followed by a text input field containing 'Second Remote update to README.md'. Below that is an 'Extended description' section with a text input field containing 'Add an optional extended description...'. At the bottom, there are two radio button options:

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

At the very bottom of the dialog are 'Cancel' and 'Commit changes' buttons.

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

```
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

A screenshot of a GitHub repository page. The file 'README.md' has been updated locally. The commit message is 'Local second update to README' and it was made 3 hours ago. The content of the file shows a conflict:

```
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
```

A screenshot of GitHub's inline editor for 'README.md'. The file is in the 'main' branch. The content shows a conflict:

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

A screenshot of GitHub's preview mode for 'README.md'. The content shows a conflict:

```
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

```

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

```

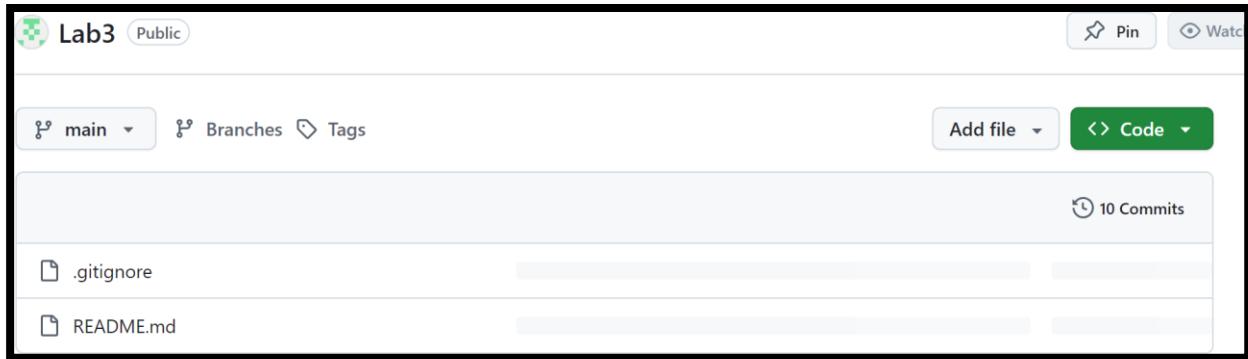
HP@DESKTOP-UGL3JHC MINGW64 ~/Desktop/Lab3 (main)
$ git rm -r --cached textfiles
rm 'textfiles/a.txt'
rm 'textfiles/b.txt'
rm 'textfiles/c.txt'

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

```



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 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 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)
```

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

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
```

.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
```

```
[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
```

 .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)
```

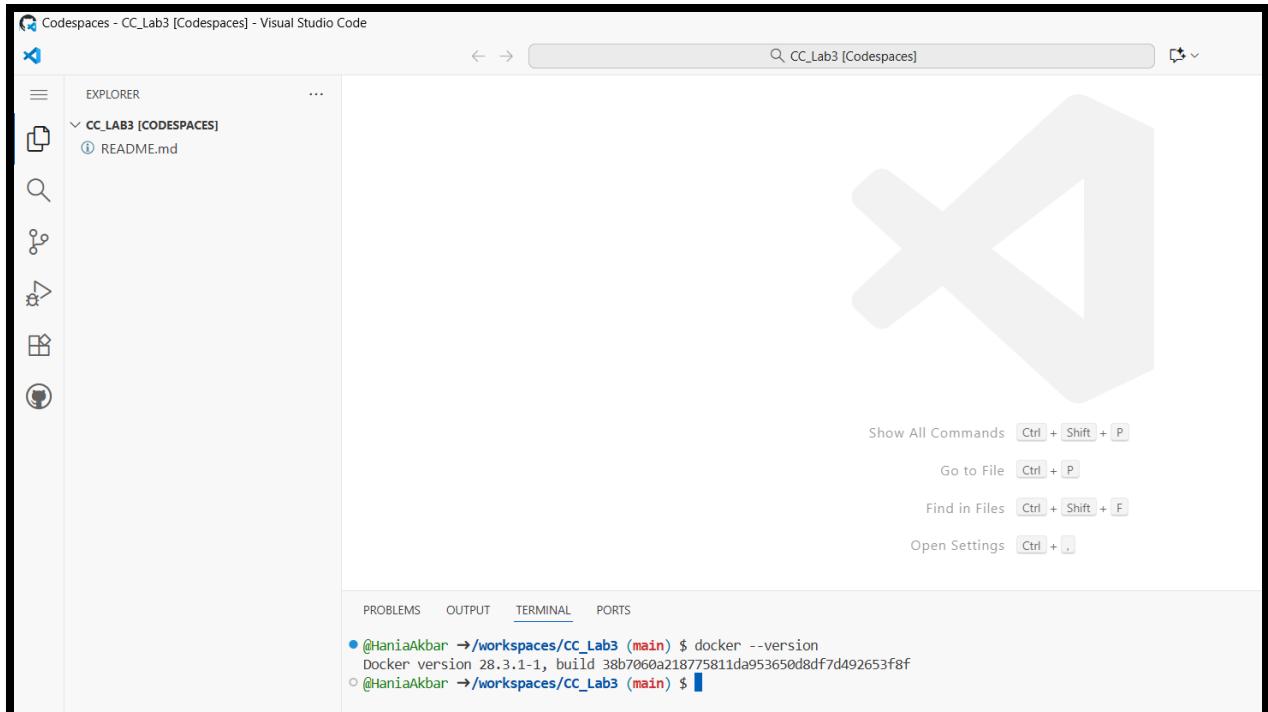
Task 10 – Running Gitea in GitHub Codespaces via Docker Compose

The screenshot shows the GitHub Codespaces interface. At the top, there is a search bar labeled "Go to file" and a "Code" button. Below the search bar, there are two tabs: "Local" and "Codespaces". The "Codespaces" tab is selected and highlighted with a blue border. Under the "Codespaces" section, the heading "Codespaces" is displayed, followed by the subtext "Your workspaces in the cloud". To the right of this text are a "+" button and an ellipsis "...". In the center, the message "No codespaces" is shown, followed by the subtext "You don't have any codespaces with this repository checked out". Below this message is a large green button labeled "Create codespace on main". Further down, there is a link "Learn more about codespaces...". At the bottom of the interface, a note states "Codespace usage for this repository is paid for by HaniaAkbar."

The screenshot shows the GitHub Codespaces "PORTS" tab. The tab has a count of "1" next to it. The table displays one port entry:

Port	Forwarded Address	Running Process	Visibility	Origin
3000	https://special-guacamole-...	/usr/bin/docker-proxy -proto tcp -host-ip 0.0.0.0 -host-p...	<input checked="" type="radio"/> Public	User Forwarded

At the bottom left of the table, there is a "Add Port" button.



```
● @HaniaAkbar → /workspaces/CC_Lab3 (main) $ mkdir gitea && cd gitea
● @HaniaAkbar → /workspaces/CC_Lab3/gitea (main) $ docker run -d --name=gitea -p 3000:3000 gitea/gitea:latest
Unable to find image 'gitea/gitea:latest' locally
latest: Pulling from gitea/gitea
9824c27679d3: Pull complete
307c463a9ebe: Pull complete
89986d54bad9: Pull complete
e7ea2b7110b2: Pull complete
dc71ac9fe925: Pull complete
a4ebd224fde1: Pull complete
3b7dba00267e: Pull complete
Digest: sha256:2edc102cbb636ae1ddac5fa0c715aa5b03079dee13ac6800b2cef6d4e912e718
Status: Downloaded newer image for gitea/gitea:latest
82ff05b7ee0f7b977855d33abff94f753dd83bb3156775d62b54dd88efe27c4
○ @HaniaAkbar → /workspaces/CC_Lab3/gitea (main) $
```

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 *	PostgreSQL
Host *	db:5432
Username *	gitea
Password *	***
Database Name *	gitea
SSL *	Disable
Schema	

Leave blank for database default ("public").

General Settings

Site Title *	My Gitea server
--------------	-----------------

You can enter your company name here.

General Settings

Site Title * My Gitea server

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 * special-quacamole-jjp576qq4wrp2pvpp-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://special-quacamole-jjp576qq4wrp2pvpp-3000.app.github.dev/

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

Creating an administrator account is optional. The first registered user will automatically become an administrator.

Administrator Username

Email Address

Password

Confirm Password

These configuration options will be written into: 

Install Gitea

Issues Pull Requests Milestones Explore

New Repository

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

Owner *  Hania

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

Repository Name * CC_Lab3

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 Enter short description (optional)

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

 Hania / CC_Lab3

Code Issues Packages Projects Wiki

CC_Lab3 / README.md (i) or Cancel

New File Preview

1 this file was added remotely

 Commit Changes

file added

Add an optional extended description...

Add a Signed-off-by trailer by the committer at the end of the commit log message.

Commit directly to the `main` branch.

Commit Changes **Cancel**

 Hania / CC_Lab3

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

Files [main](#) [CC_Lab3 / README.md](#)

README.md  024dbb6af6 file added

29 B

this file was added remotely

User Settings

- Profile
- Account
- Appearance
- Security
- Blocked users
- Applications
- SSH / GPG Keys
- Actions >
- Packages
- Webhooks
- Organizations
- Repositories

Manage Access Tokens

These tokens grant access to your account using the Gitea API.

▼ Generate New Token

Token Name

PAT

Repository and Organization Access

Public only
 All (public, private, and limited)

Selected token permissions limit authorization only to the corresponding API routes. Read the [documentation](#) for more information.

Activity	No Access	Read	Read and Write
activitypub	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
admin	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
issue	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
misc	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
notification	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
organization	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
package	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
repository	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
user	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Generate Token

Hania / CC_Lab3

Code Issues Pull Requests Actions Packages Projects Releases Wiki Activity

2 Commits 1 Branch 0 Tags

main Go to file Add File ▾

 HaniaAkbar fe6275f7aa Hania Akbar -026 38 minutes ago

README.md Hania Akbar -026 38 minutes ago

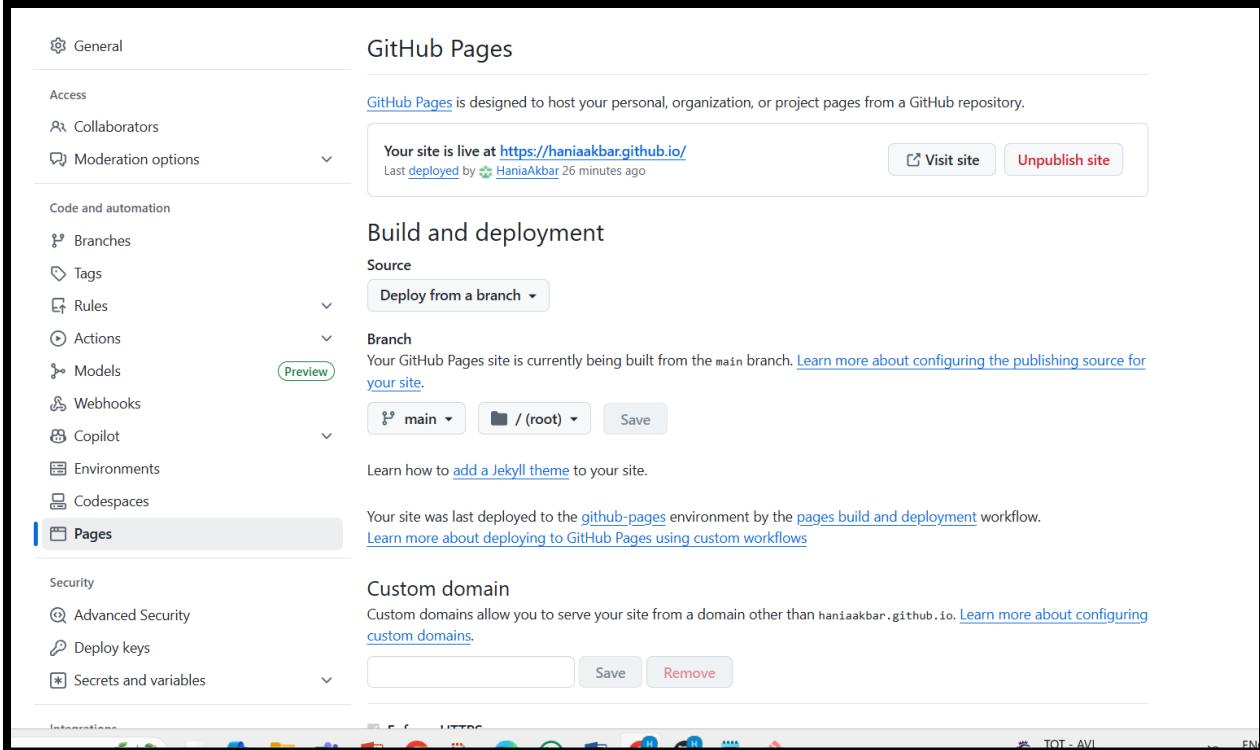
README.md

Hania Akbar -026

Task 11 – Creating a GitHub Pages Portfolio Site

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'.
```



The screenshot shows the GitHub Pages settings interface for a repository named "haniaakbar".

General

- Access
- Collaborators
- Moderation options

Code and automation

- Branches
- Tags
- Rules
- Actions
- Models
- Webhooks
- Copilot
- Environments
- Codespaces
- Pages** (selected)

GitHub Pages

GitHub Pages is designed to host your personal, organization, or project pages from a GitHub repository.

Your site is live at <https://haniaakbar.github.io/>
Last deployed by  HaniaAkbar 26 minutes ago

[Visit site](#) [Unpublish site](#)

Build and deployment

Source
Deploy from a branch ▾
Branch
Your GitHub Pages site is currently being built from the main branch. [Learn more about configuring the publishing source for your site.](#)

 main ▾  / (root) ▾ [Save](#)

Learn how to [add a Jekyll theme](#) to your site.

Your site was last deployed to the [github-pages](#) environment by the [pages build and deployment](#) workflow. [Learn more about deploying to GitHub Pages using custom workflows](#)

Custom domain
Custom domains allow you to serve your site from a domain other than haniaakbar.github.io. [Learn more about configuring custom domains.](#)

[Save](#) [Remove](#)

<https://haniaakbar.github.io/>