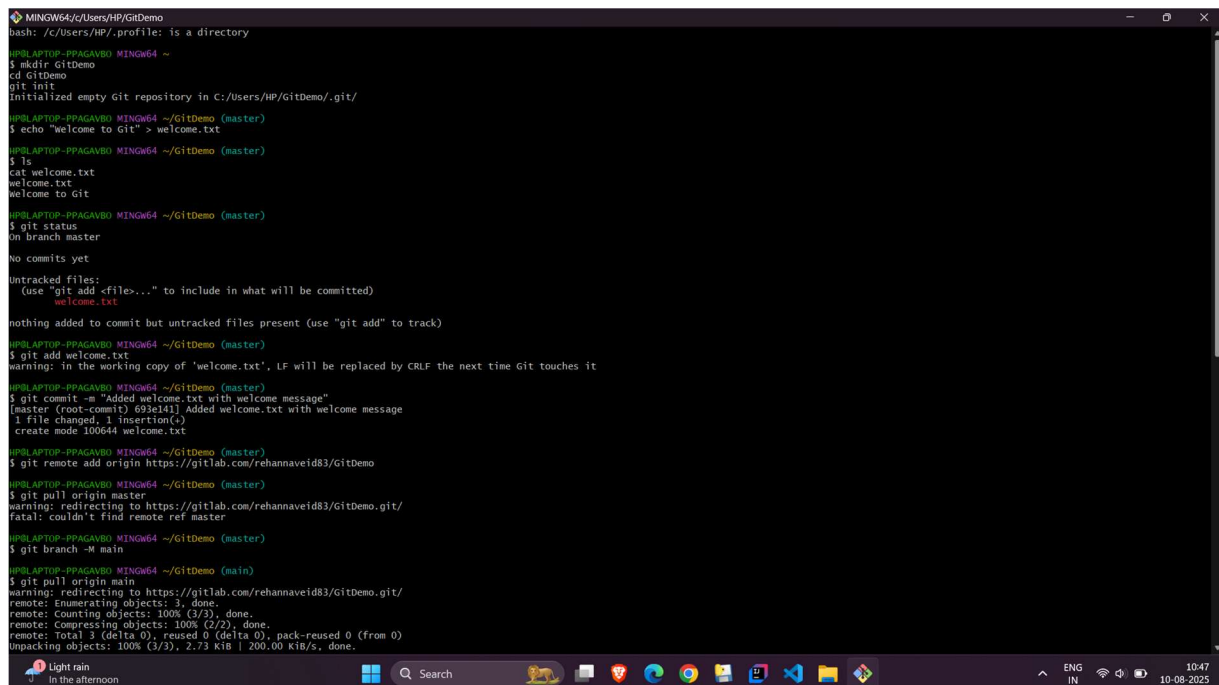
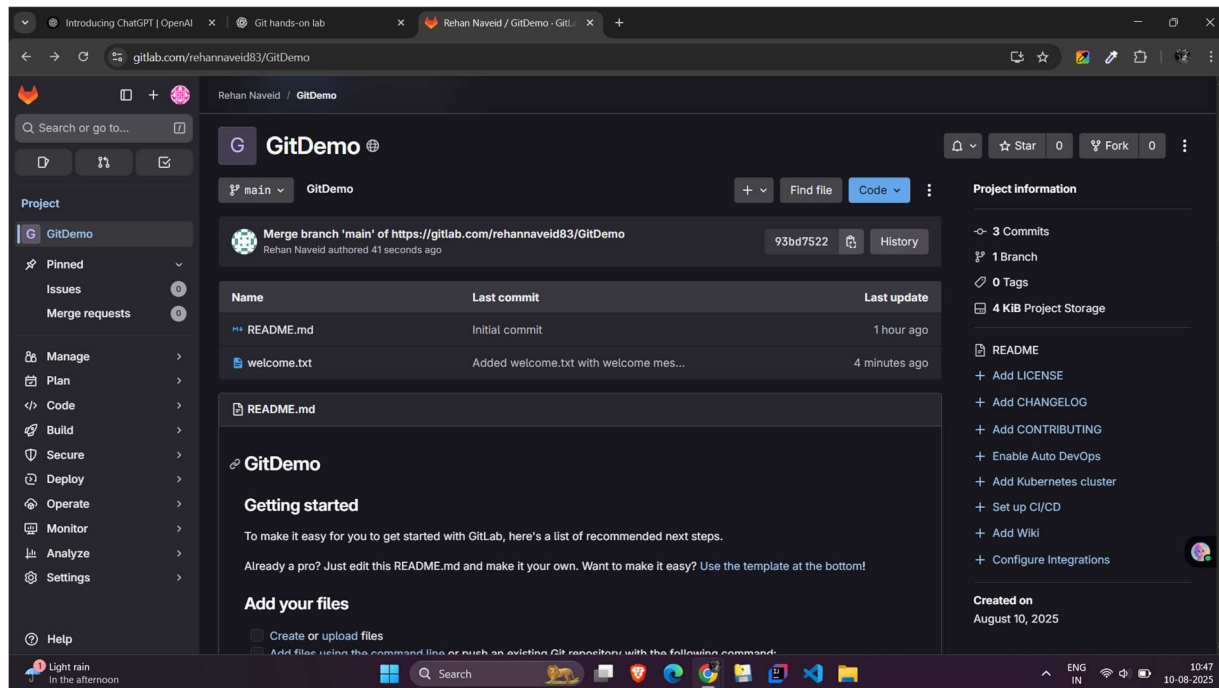


Git Hands-on Labs 1 to 5

Lab 1: Git Configuration and Setup



```
MINGW64/c/Users/HP/GitDemo
warning: redirecting to https://gitlab.com/rehannaveid83/GitDemo.git/
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), 2.73 KiB | 200.00 KiB/s, done.
From https://gitlab.com/rehannaveid83/GitDemo
* branch      main      -> FETCH_HEAD
* [new branch] main      -> origin/main
fatal: refusing to merge unrelated histories

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git push origin main
warning: redirecting to https://gitlab.com/rehannaveid83/GitDemo.git/
To https://gitlab.com/rehannaveid83/GitDemo
 ! [rejected]        main -> main (non-fast-forward)
error: failed to push some refs to 'https://gitlab.com/rehannaveid83/GitDemo'
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.

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git push -u origin main
warning: redirecting to https://gitlab.com/rehannaveid83/GitDemo.git/
To https://gitlab.com/rehannaveid83/GitDemo
 ! [rejected]        main -> main (non-fast-forward)
error: failed to push some refs to 'https://gitlab.com/rehannaveid83/GitDemo'
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.

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git pull origin main --allow-unrelated-histories
warning: redirecting to https://gitlab.com/rehannaveid83/GitDemo.git/
From https://gitlab.com/rehannaveid83/GitDemo
* branch      main      -> FETCH_HEAD
Merge made by the 'ort' strategy.
 README.md | 93 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 1 file changed, 93 insertions(+)
 create mode 100644 README.md

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git push -u origin main
warning: redirecting to https://gitlab.com/rehannaveid83/GitDemo.git/
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
writing objects: 100% (5/5), 588 bytes | 588.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To https://gitlab.com/rehannaveid83/GitDemo
 d4fec28..93bd752  main -> main
branch 'main' set up to track 'origin/main'.

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$
```

Lab 2: Create .gitignore and ignore files/folders

```
MINGW64/c/Users/HP/GitDemo

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ mkdir log

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ echo "This is a sample log entry" > sample.log

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ echo "Log file inside folder" > log/error.log

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ ls -a
./ ../ .git/ README.md log/ sample.log welcome.txt

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ touch .gitignore

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ notepad++ .gitignore

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

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

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

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git add .gitignore

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git commit -m "Add .gitignore to ignore .log files and log folder"
[main 1af30e2] Add .gitignore to ignore .log files and log folder
 1 file changed, 5 insertions(+)
 create mode 100644 .gitignore

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (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

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git add sample.log
git add log/error.log
The following paths are ignored by one of your .gitignore files:
sample.log
hint: Use -f if you really want to add them.
hint: Turn this message off by running
hint: "git config advice.addIgnoredFile false"
The following paths are ignored by one of your .gitignore files:
log
```

Lab 3: Branching and Switching

```
MINGW64~/c/Users/HP/GitDemo
Deleted branch GitNewBranch (was fb8c574).

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git checkout -b GitNewBranch2
Switched to a new branch 'GitNewBranch2'

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (GitNewBranch2)
$ echo "This is a new change in GitNewBranch2" > welcome.txt

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (GitNewBranch2)
$ git add welcome.txt
$ git commit -m "Modified welcome.txt in GitNewBranch2"
warning: in the working copy of 'welcome.txt', LF will be replaced by CRLF the next time Git touches it
[GitNewBranch2 6684407] Modified welcome.txt in GitNewBranch2
1 file changed, 1 insertion(+), 1 deletion(-)

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (GitNewBranch2)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 4 commits.
(use "git push" to publish your local commits)

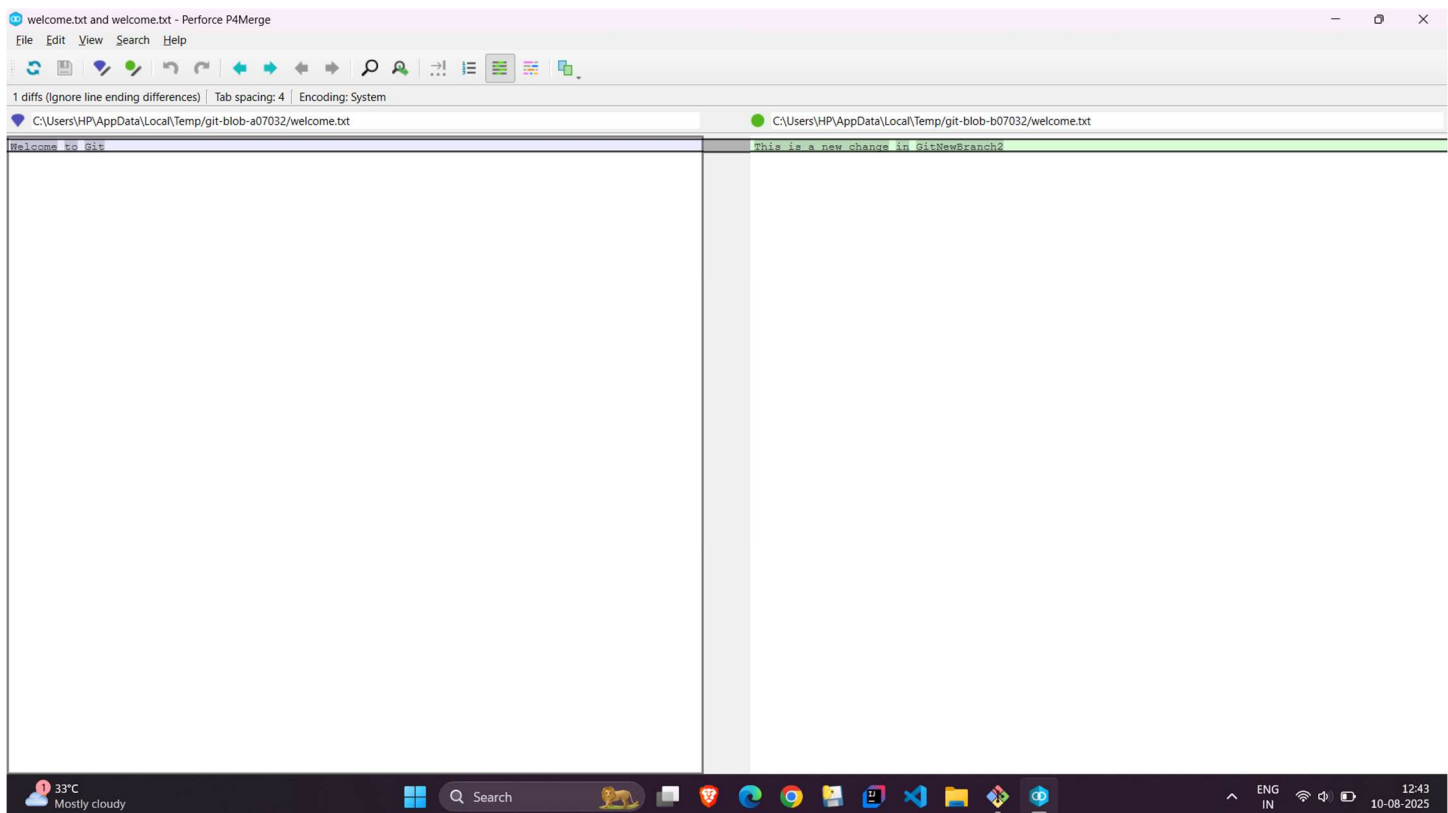
HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git diff main GitNewBranch2
diff --git a/welcome.txt b/welcome.txt
index 6b7935a..24c8d12 100644
--- a/welcome.txt
+++ b/welcome.txt
@@ -1,1 @@
-Welcome to Git
+This is a new change in GitNewBranch2

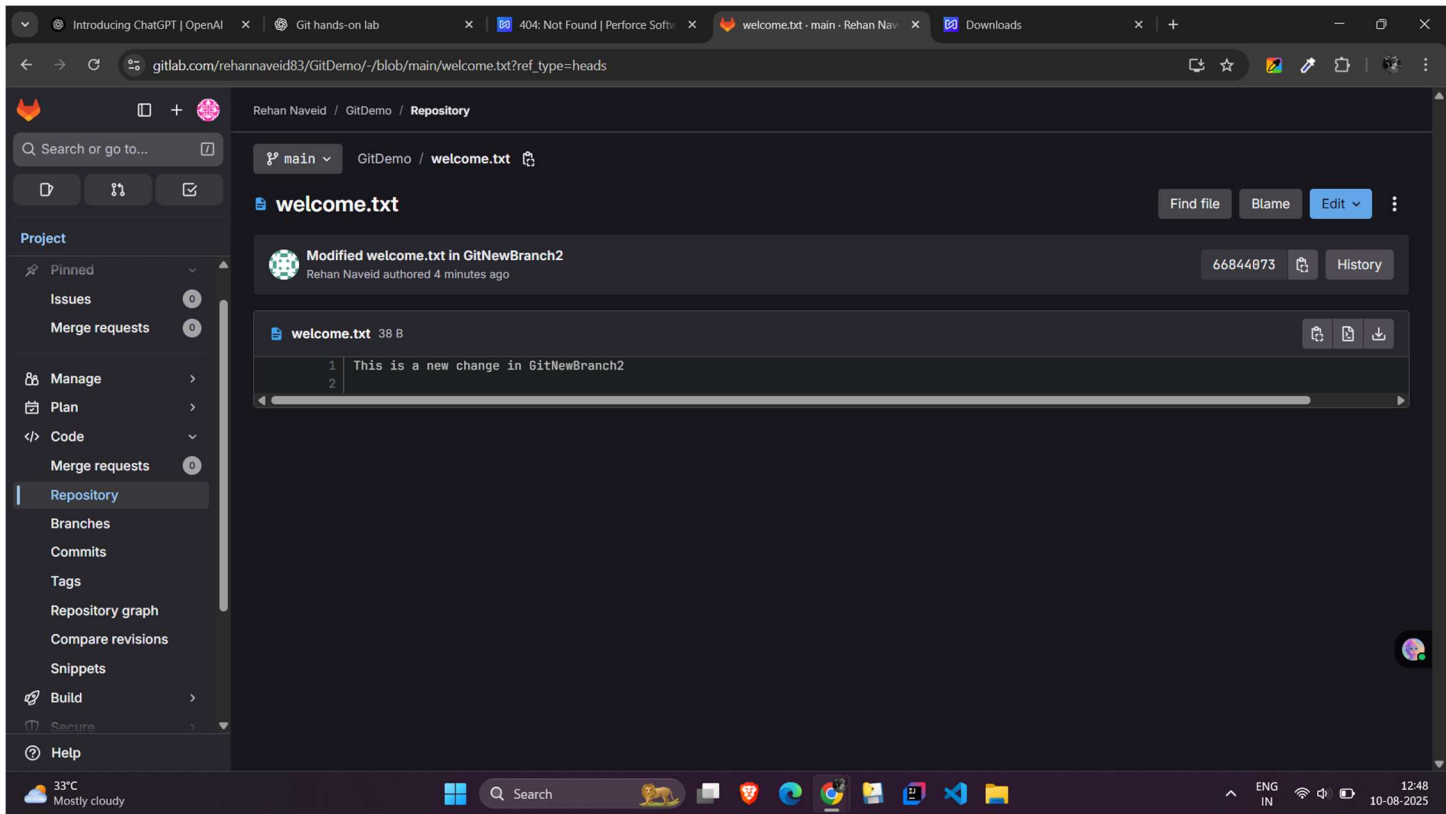
HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git difftool main GitNewBranch2

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git merge GitNewBranch2
Updating fb8c574..6684407
Fast-forward
 welcome.txt | 2 +-
1 file changed, 1 insertion(+), 1 deletion(-)

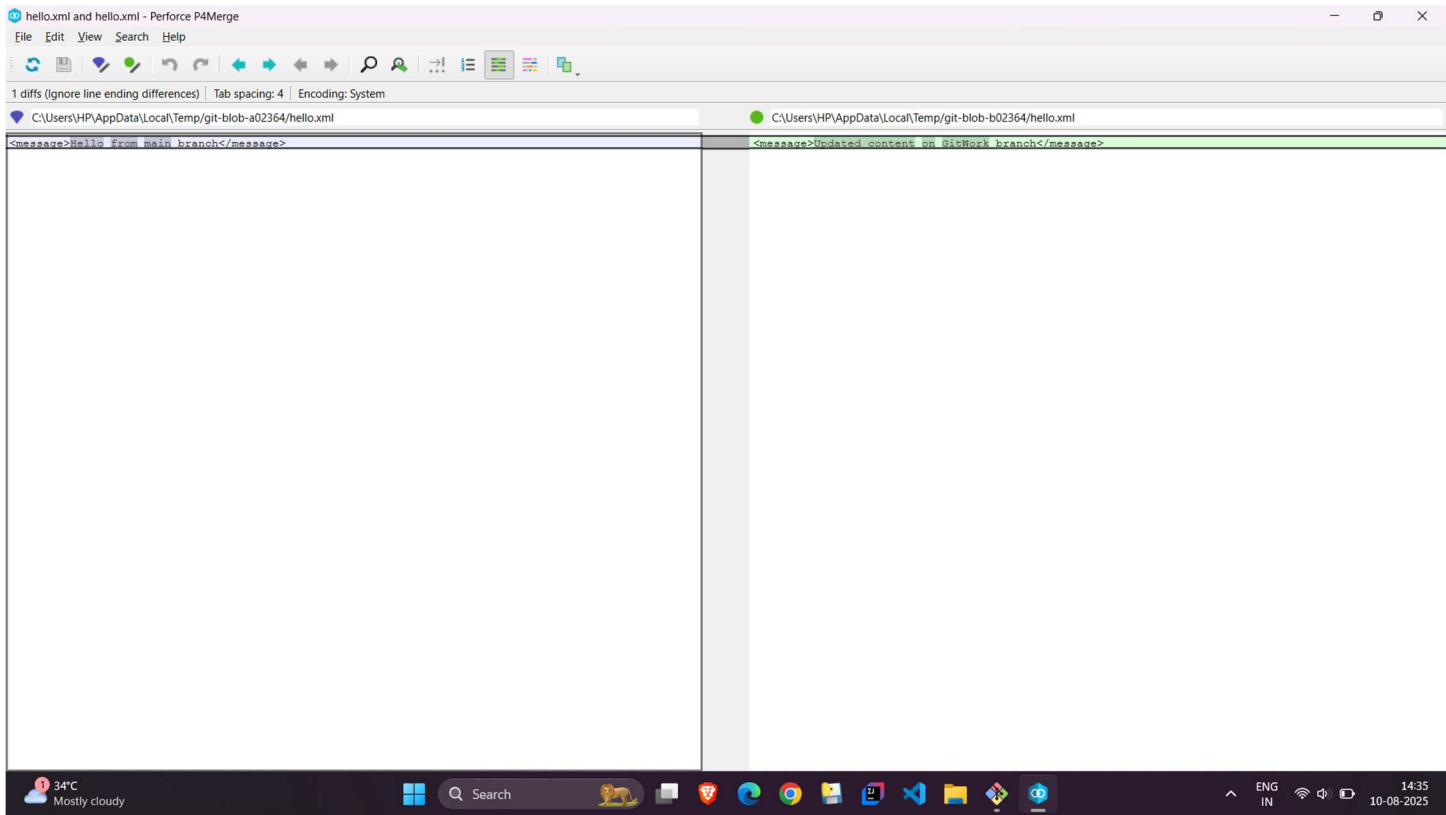
HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git log --oneline --graph --decorate
* 6684407 (HEAD -> main, GitNewBranch2) Modified welcome.txt in GitNewBranch2
* fb8c574 Updated welcome.txt on GitNewBranch
* 1235878 Added newfile.txt on GitNewBranch
* 8add041 Added newfile.txt on GitNewBranch
* 1af30e2 Add .gitignore to ignore .log files and log folder
* 93bd752 (origin/main) Merge branch 'main' of https://gitlab.com/rehannaveid83/GitDemo
|
| * d4fec28 Initial commit
* 693e141 Added welcome.txt with welcome message

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git branch -d GitNewBranch2
Deleted branch GitNewBranch2 (was 6684407).
```





Lab 4: Merging Branches



```
MINGW64~/Users/HP/GitDemo
Switched to branch 'Gitwork'

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (Gitwork)
$ echo "<message>Updated content on GitWork branch</message>" > hello.xml
git status
On branch Gitwork
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    hello.xml

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

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (Gitwork)
$ git add hello.xml
git commit -m "Added and updated hello.xml on Gitwork branch"
warning: in the working copy of 'hello.xml', LF will be replaced by CRLF the next time Git touches it
[Gitwork 499fe8e] Added and updated hello.xml on Gitwork branch
1 file changed, 1 insertion(+)
create mode 100644 hello.xml

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (Gitwork)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git checkout main
Already on 'main'
Your branch is up to date with 'origin/main'.

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ echo "<message>Hello from main branch</message>" > hello.xml

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git add hello.xml
git commit -m "Added hello.xml with different content on main"
warning: in the working copy of 'hello.xml', LF will be replaced by CRLF the next time Git touches it
[main f2315c8] Added hello.xml with different content on main
1 file changed, 1 insertion(+)
create mode 100644 hello.xml

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git log --oneline --graph --decorate --all
* f2315c8 (HEAD -> main) Added hello.xml with different content on main
* 499fe8e (Gitwork) Added and updated hello.xml on Gitwork branch
/
* 6684407 (origin/main) Modified welcome.txt in GitNewBranch2
* fbb8c374 Updated welcome.txt on GitNewBranch
* 2235878 Added newfile.txt on GitNewBranch
* 8add041 Added newfile.txt on GitNewBranch
* 1af30e2 Add .gitignore to ignore .log files and log folder
* 93bd752 Merge branch 'main' of https://gitlab.com/rehannaveid83/GitDemo
/
| * d4fec28 Initial commit
* 693e141 Added welcome.txt with welcome message

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git diff main Gitwork
```

```
MINGW64~/Users/HP/GitDemo
HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git diff main Gitwork
diff --git a/hello.xml b/hello.xml
index dc8ea3d..1a065a1 100644
--- a/hello.xml
+++ b/hello.xml
@@ -1,1 @@
-<message>Hello from main branch</message>
+<message>Updated content on GitWork branch</message>

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git difftool main Gitwork

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git checkout main
git merge Gitwork
Already on 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)
Auto-merging hello.xml
CONFLICT (add/add): Merge conflict in hello.xml
Automatic merge failed; fix conflicts and then commit the result.

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main|MERGING)
$ git mergetool
Merging:
hello.xml

Normal merge conflict for 'hello.xml':
  {local}: created file
  {remote}: created file

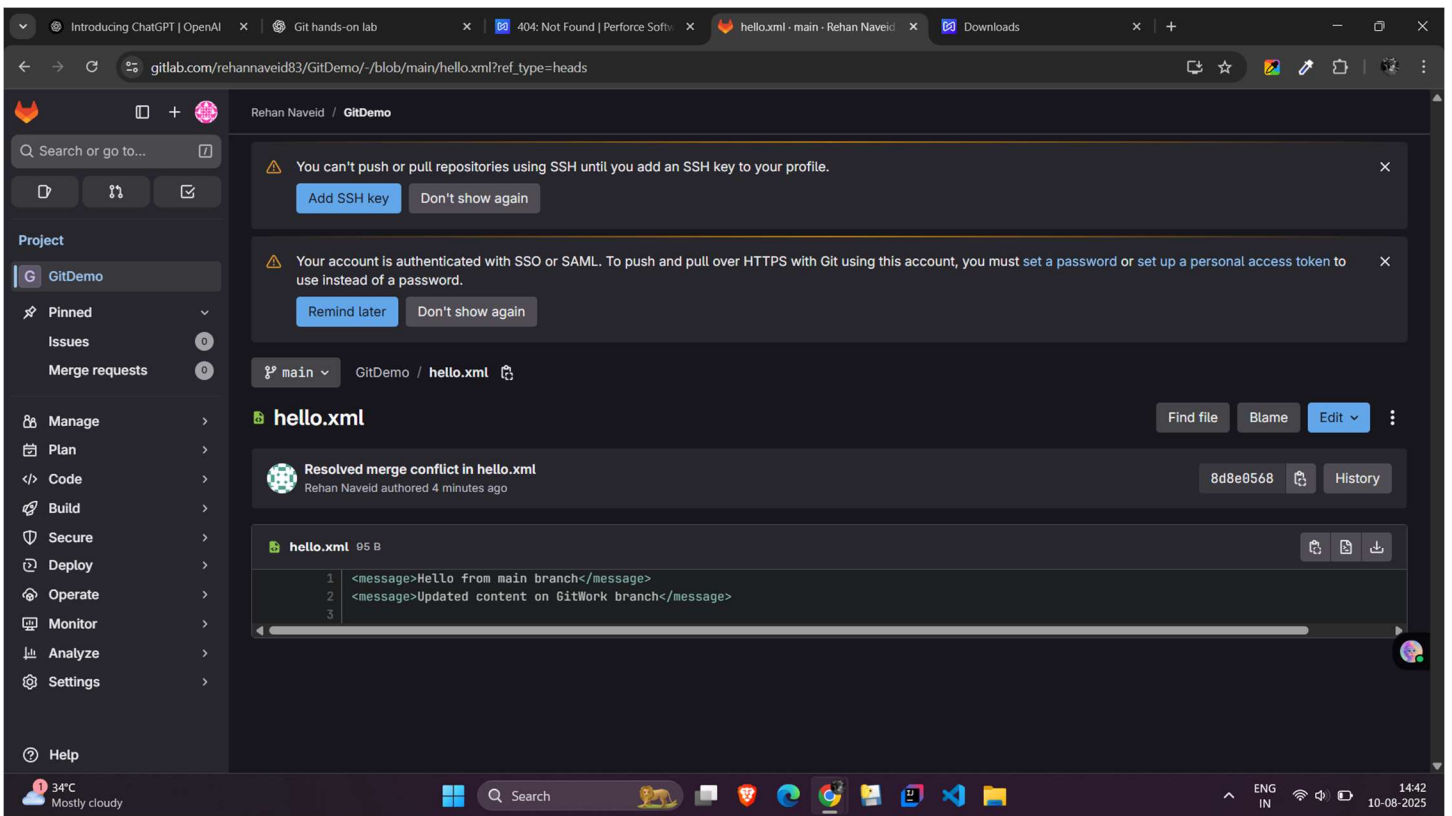
HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main|MERGING)
$ git add hello.xml
git commit -m "Resolved merge conflict in hello.xml"
[main 8d8e056] Resolved merge conflict in hello.xml

HPBLAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git status
echo ".bak" >> .gitignore
git status
On branch main
Your branch is ahead of 'origin/main' by 3 commits.
  (use "git push" to publish your local commits)

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

nothing added to commit but untracked files present (use "git add" to track)
On branch main
Your branch is ahead of 'origin/main' by 3 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:   .gitignore
```

Lab 5: Syncing with Remote Repository

