

## GIT-HOL-1:

MINGW64:/d/CTS

```
think@Mugil MINGW64 /d/CTS
$ git init GitDemo
Initialized empty Git repository in D:/CTS/GitDemo/.git/

think@Mugil MINGW64 /d/CTS
$ ls -al
total 12
drwxr-xr-x 1 think 197609 0 Aug 8 07:52 ./
drwxr-xr-x 1 think 197609 0 Aug 6 21:38 ../
drwxr-xr-x 1 think 197609 0 Aug 6 21:21 DN-4.0--Mugilan-Superset-ID-6410310/
drwxr-xr-x 1 think 197609 0 Aug 8 07:52 GitDemo/

think@Mugil MINGW64 /d/CTS
$ echo "Welcome to the version control" >> welcome.txt

think@Mugil MINGW64 /d/CTS
$ ls -al
total 13
drwxr-xr-x 1 think 197609 0 Aug 8 07:52 ./
drwxr-xr-x 1 think 197609 0 Aug 6 21:38 ../
drwxr-xr-x 1 think 197609 0 Aug 6 21:21 DN-4.0--Mugilan-Superset-ID-6410310/
drwxr-xr-x 1 think 197609 0 Aug 8 07:52 GitDemo/
-rw-r--r-- 1 think 197609 31 Aug 8 07:52 welcome.txt

think@Mugil MINGW64 /d/CTS
$ cat welcome.txt
Welcome to the version control
```

```
think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   welcome.txt

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git add welcome.txt

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git commit "Added welcome.txt file with initial content"
error: pathspec 'Added welcome.txt file with initial content' did not match any
file(s) known to git

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git commit -m "Added welcome.txt file with initial content"
[master (root-commit) 1b0df00] Added welcome.txt file with initial content
1 file changed, 1 insertion(+),
create mode 100644 welcome.txt
```

## Git Lab:

```
think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git remote https://gitlab.com/thinknewbro-group/gitdemo.git
error: unknown subcommand: 'https://gitlab.com/thinknewbro-group/gitdemo.git'
usage: git remote [-v | --verbose]
        or: git remote add [-t <branch>] [-m <masters>] [-f] [--tags | --no-tags] [--mirror=<fetch|push>] <name> <url>
        or: git remote rename [--[no-]progress] <old> <new>
        or: git remote remove <name>
        or: git remote set-head <name> (-a | --auto | -d | --delete | <branch>)
        or: git remote [-v | --verbose] show [-n] <name>
        or: git remote prune [-n | --dry-run] <name>
        or: git remote [-v | --verbose] update [-p | --prune] [(<group> | <remote>)...]
        or: git remote set-branches [--add] <name> <branch>...
        or: git remote get-url [--push] [--all] <name>
        or: git remote set-url [--push] <name> <newurl> [<oldurl>]
        or: git remote set-url --add <name> <newurl>
        or: git remote set-url --delete <name> <url>

        -v, --[no-]verbose    be verbose; must be placed before a subcommand

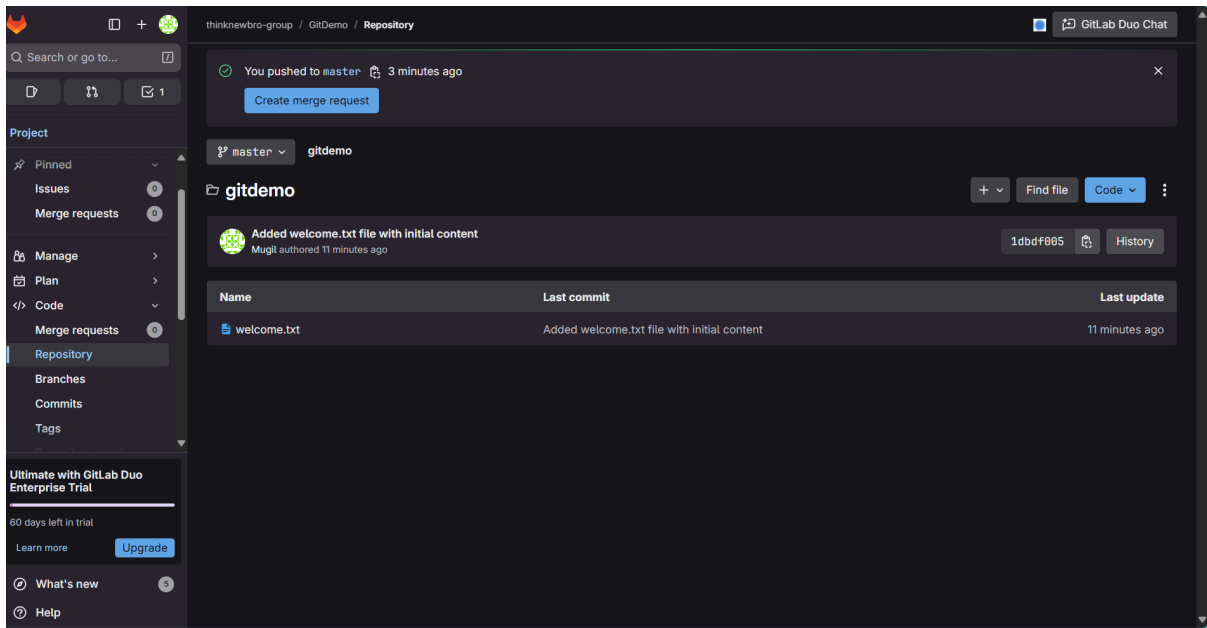
think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ AC

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git remote add origin https://gitlab.com/thinknewbro-group/gitdemo.git

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git remote -v
origin https://gitlab.com/thinknewbro-group/gitdemo.git (fetch)
origin https://gitlab.com/thinknewbro-group/gitdemo.git (push)

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git push -u origin master
info: please complete authentication in your browser...
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 267 bytes | 267.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: To create a merge request for master, visit:
remote:   https://gitlab.com/thinknewbro-group/gitdemo/-/merge_requests/new?merge_request%5Bsource_branch%5D=master
remote:
To https://gitlab.com/thinknewbro-group/gitdemo.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ |
```



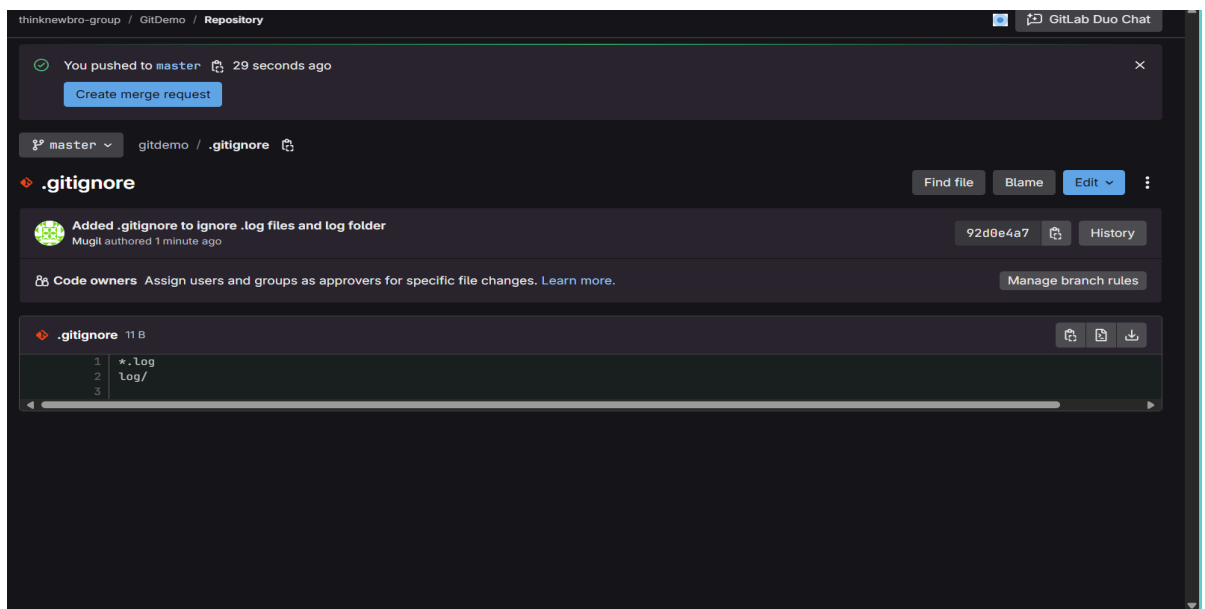
## GIT-HOL-2:

```
MINGW64/d/CTS/GitDemo
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ mkdir log
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ echo "Temporary logs" >> log/debug.txt
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ touch .gitignore
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ echo "*.log" >> .gitignore
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ echo "log/" >> .gitignore
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

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)
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ git add .gitignore
warning: in the working copy of '.gitignore', LF will be replaced by CRLF the next time Git touches it
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ git commit -m "Added .gitignore to ignore .log files and log folder"
[master 92d0e4a] Added .gitignore to ignore .log files and log folder
1 file changed, 2 insertions(+)
create mode 100644 .gitignore
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
think@Mugli MINGW64 /d/CTS/GitDemo (master)
$ git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 16 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 314 bytes | 314.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote: To create a merge request for master, visit:
remote:   https://gitlab.com/thinknewbro-group/gitdemo/-/merge_requests/new?merge_requests[source_branch%3D=master
remote: To https://gitlab.com/thinknewbro-group/gitdemo.git
       1dbdf00..92d0e4a  master -> master
```



## GIT-HOL-3:

```
think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git checkout GitNewBranch
Switched to branch 'GitNewBranch'

think@Mugil MINGW64 /d/CTS/GitDemo (GitNewBranch)
$ echo "This is a file in GitNewBranch" >> branchfile.txt

think@Mugil MINGW64 /d/CTS/GitDemo (GitNewBranch)
$ git add branchfile.txt
warning: in the working copy of 'branchfile.txt', LF will be replaced by CRLF the next time Git touches it

think@Mugil MINGW64 /d/CTS/GitDemo (GitNewBranch)
$ git commit -m "Added branchfile.txt in GitNewBranch"
[GitNewBranch e9257d4] Added branchfile.txt in GitNewBranch
1 file changed, 1 insertion(+)
 create mode 100644 branchfile.txt

think@Mugil MINGW64 /d/CTS/GitDemo (GitNewBranch)
$ git push
fatal: The current branch GitNewBranch has no upstream branch.
To push the current branch and set the remote as upstream, use

    git push --set-upstream origin GitNewBranch

To have this happen automatically for branches without a tracking
upstream, see 'push.autoSetupRemote' in 'git help config'.

think@Mugil MINGW64 /d/CTS/GitDemo (GitNewBranch)
$ git push -u
fatal: The current branch GitNewBranch has no upstream branch.
To push the current branch and set the remote as upstream, use

    git push --set-upstream origin GitNewBranch

To have this happen automatically for branches without a tracking
upstream, see 'push.autoSetupRemote' in 'git help config'.

think@Mugil MINGW64 /d/CTS/GitDemo (GitNewBranch)
$ git push -u origin GitNewBranch
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 16 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 367 bytes | 367.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: To create a merge request for GitNewBranch, visit:
remote:   https://gitlab.com/thinknewbro-group/gitdemo/-/merge_requests/new?merge_request%5Bsource_branch%5D=GitNewBranch
remote:
To https://gitlab.com/thinknewbro-group/gitdemo.git
 * [new branch]      GitNewBranch -> GitNewBranch
branch 'GitNewBranch' set up to track 'origin/GitNewBranch'.

think@Mugil MINGW64 /d/CTS/GitDemo (GitNewBranch)
$ git pull
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 | 310.00 KiB/s, done.
From https://gitlab.com/thinknewbro-group/gitdemo
 * [new branch]      main -> origin/main
Already up to date.
```

MINGW64:/d/CTS/GitDemo

```
think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git merge GitNewBranch
Updating 92d0e4a..e9257d4
Fast-forward
 branchfile.txt | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 branchfile.txt

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git log --oneline --graph --decorate
* e9257d4 (HEAD -> master, origin/GitNewBranch, GitNewBranch) Added branchfile.txt in GitNewBranch
* 92d0e4a (origin/master) Added .gitignore to ignore .log files and log folder
* 1dbdf00 Added welcome.txt file with initial content

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git branch -d GitNewBranch
Deleted branch GitNewBranch (was e9257d4).

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git push
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: To create a merge request for master, visit:
remote:   https://gitlab.com/thinknewbro-group/gitdemo/-/merge_requests/new?merge_request%5Bsource_branch%5D=master
remote:
To https://gitlab.com/thinknewbro-group/gitdemo.git
 92d0e4a..e9257d4 master -> master

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ |
```

## GIT-HOL-4:

```
MINGW64/d/CTS/GitDemo
Your branch is up to date with 'origin/master'.
nothing to commit, working tree clean

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git checkout -b Gitwork
Switched to a new branch 'Gitwork'

think@mugil MINGW64 /d/CTS/GitDemo (Gitwork)
$ echo "<note>Hello World</note>" > hello.xml

think@mugil MINGW64 /d/CTS/GitDemo (Gitwork)
$ echo "<note>Hello Git Branch</note>" > hello.xml

think@mugil MINGW64 /d/CTS/GitDemo (Gitwork)
$ 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)

think@mugil MINGW64 /d/CTS/GitDemo (Gitwork)
$ git add hello.xml
warning: in the working copy of 'hello.xml', LF will be replaced by CRLF the next time Git touches it

think@mugil MINGW64 /d/CTS/GitDemo (Gitwork)
$ git commit -m "Updated hello.xml in Gitwork branch"
[Gitwork 8f0040a] Updated hello.xml in Gitwork branch
 1 file changed, 1 insertion(+)
 create mode 100644 hello.xml

think@mugil MINGW64 /d/CTS/GitDemo (Gitwork)
$ git push
fatal: The current branch Gitwork has no upstream branch.
To push the current branch and set the remote as upstream, use

    git push --set-upstream origin Gitwork

To have this happen automatically for branches without a tracking
upstream, see 'push.autosetupremote' in 'git help config'.

think@mugil MINGW64 /d/CTS/GitDemo (Gitwork)
$ git push -u origin Gitwork
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 16 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 316 bytes | 316.00 Kib/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: To create a merge request for Gitwork, visit:
remote:   https://gitlab.com/thinknewbro-group/gitdemo/-/merge_requests/new?merge_requests%5Bsource_branch%5D=Gitwork
remote:
To https://gitlab.com/thinknewbro-group/gitdemo.git
 * [new branch]      Gitwork -> Gitwork
branch 'Gitwork' set up to track 'origin/Gitwork'.
```

```
think@mugil MINGW64 /d/CTS/GitDemo (master)
$ echo "<note>Hello from master branch</note>" > hello.xml

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git add hello.xml
warning: in the working copy of 'hello.xml', LF will be replaced by CRLF the next time Git touches it

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git commit -m "Added different hello.xml in master branch"
[master 04acc92] Added different hello.xml in master branch
 1 file changed, 1 insertion(+)
 create mode 100644 hello.xml

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git log --oneline --graph --decorate --all
* 04acc92 (HEAD -> master) Added different hello.xml in master branch
| * 8f0040a (origin/Gitwork, Gitwork) Updated hello.xml in Gitwork branch
|/
* e9257d4 (origin/master, origin/GitNewBranch) Added branchfile.txt in GitNewBranch
* 92d0e4a Added .gitignore to ignore .log files and log folder
* 1dbdf00 Added welcome.txt file with initial content
* aa885d6 (origin/main) Initial commit

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git diff master Gitwork -- hello.xml
diff --git a/hello.xml b/hello.xml
index acfa66f..6bb2c5e 100644
--- a/hello.xml
+++ b/hello.xml
@@ -1,1 @@
-<note>Hello from master branch</note>
+<note>Hello Git Branch</note>

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git mergetool

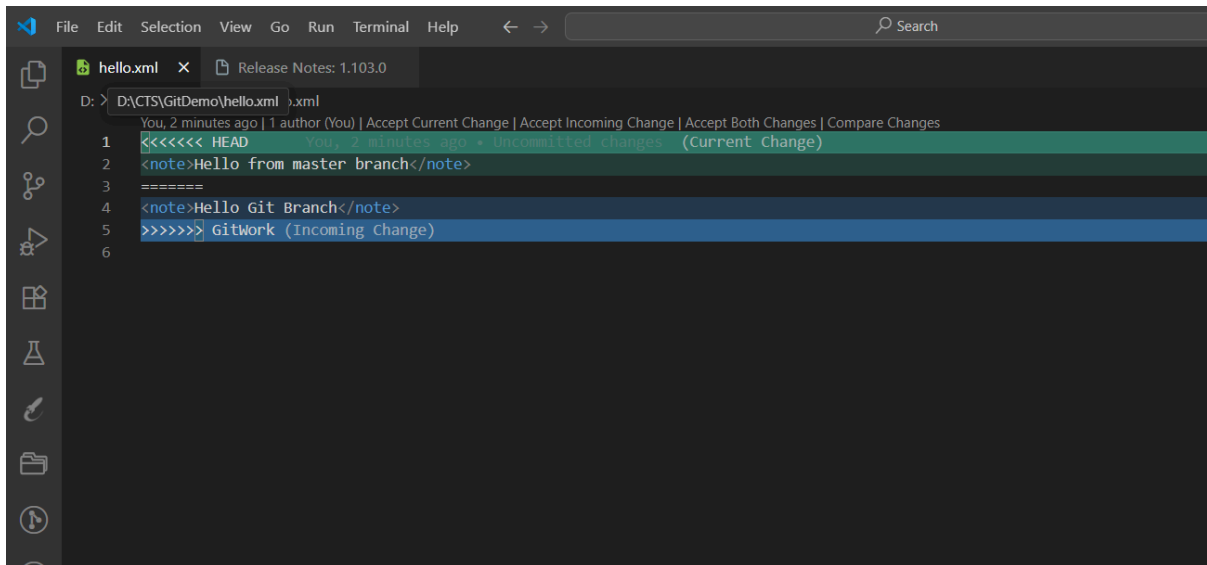
This message is displayed because 'merge.tool' is not configured.
See 'git mergetool --tool-help' or 'git help config' for more details.
'git mergetool' will now attempt to use one of the following tools:
opendiff kdiff3 tkdiff xxdiff meld tortoisemerge gvimdiff diffuze diffmerge ecmerge p4merge araxis bc codecompare smerge emerge vimdiff nvimdiff
No files need merging

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git config --global merge.tool p4merge

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git config --global mergetool.p4merge.cmd "p4merge %BASE %LOCAL %REMOTE %MERGED"

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git mergetool
No files need merging

think@mugil MINGW64 /d/CTS/GitDemo (master)
$ git merge Gitwork
Auto-merging hello.xml
CONFLICT (add/add): Merge conflict in hello.xml
Automatic merge failed; fix conflicts and then commit the result.
```



```
$ git mergetool

This message is displayed because 'merge.tool' is not configured.
See 'git mergetool --tool-help' or 'git help config' for more details.
'git mergetool' will now attempt to use one of the following tools:
opendiff kdiff3 tkdiff xxdiff meld tortoisemerge gvimdiff diffuse diffmerge ecmerge p4merge araxis bc codecompare smerge emerge vimdiff nvimdiff
No files need merging

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git config --global merge.tool p4merge

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git config --global mergetool.p4merge.cmd "p4merge %BASE %LOCAL %REMOTE %MERGED"

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git mergetool
No files need merging

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git merge GitWork
Auto-merging hello.xml
CONFLICT (add/add): Merge conflict in hello.xml
Automatic merge failed; fix conflicts and then commit the result.

think@Mugil MINGW64 /d/CTS/GitDemo (master|MERGING)
$ git merge GitWork
error: Merging is not possible because you have unmerged files.
hint: Fix them up in the work tree, and then use 'git add/rm <file>'
hint: as appropriate to mark resolution and make a commit.
fatal: Exiting because of an unresolved conflict.

think@Mugil MINGW64 /d/CTS/GitDemo (master|MERGING)
$ git add hello.xml

think@Mugil MINGW64 /d/CTS/GitDemo (master|MERGING)
$ git commit -m "Resolved merge conflict between master and GitWork"
[master 4d762c6] Resolved merge conflict between master and GitWork

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git log --oneline --graph --decorate --all
* 4d762c6 (HEAD -> master) Resolved merge conflict between master and GitWork
* 8f0040a (origin/GitWork, GitWork) Updated hello.xml in GitWork branch
* 04acc92 Added different hello.xml in master branch
/
* e9257d4 (origin/master, origin/GitNewBranch) Added branchfile.txt in GitNewBranch
* 92d0e4a Added .gitignore to ignore .log files and log folder
* 1dbdf00 Added welcome.txt file with initial content
* aa885d6 (origin/main) Initial commit

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git branch
  GitWork
* master

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git branch -d GitWork
Deleted branch GitWork (was 8f0040a).

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$
```

## Git-HOL-5:

The image shows a terminal window and a GitLab web interface. The terminal window displays the following commands and output:

```
think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git status
On branch master
Your branch is ahead of 'origin/master' by 3 commits.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git branch
* master

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git pull
Already up to date.

think@Mugil MINGW64 /d/CTS/GitDemo (master)
$ git push
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 16 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 661 bytes | 661.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: To create a merge request for master, visit:
remote:   https://gitlab.com/thinknewbro-group/gitdemo/-/merge_requests/new?merge_request%5Bsource_branch%5D=master
remote:
To https://gitlab.com/thinknewbro-group/gitdemo.git
   e9257d4..4d762c6  master -> master
```

The GitLab web interface shows the repository page for "thinknewbro-group / GitDemo". A notification banner at the top states "You pushed to master 23 seconds ago" with a "Create merge request" button. Below this, a section titled "Resolved merge conflict between master and GitWork" shows a commit by Mugil. A table lists the files in the repository:

Name	Last commit	Last update
.gitignore	Added .gitignore to ignore .log files and log folder	39 minutes ago
branchfile.txt	Added branchfile.txt in GitNewBranch	34 minutes ago
hello.xml	Resolved merge conflict between master and GitWork	6 minutes ago
welcome.txt	Added welcome.txt file with initial content	55 minutes ago

The left sidebar of the GitLab interface shows navigation options: Project, Pinned, Issues, Merge requests, Manage, Plan, Code, Merge requests, Repository, Branches, Commits, and Tags. At the bottom, there is a trial banner for "Ultimate with GitLab Duo Enterprise Trial" and links for "What's new" and "Help".