Git Hands-on Labs 1 to 5

Lab 1: Git Configuration and Setup

Lab 2: Create .gitignore and ignore files/folders

Lab 3: Branching and Switching


```
MINGW64:/c/Users/SEC/GitDemo

SEC@VELAN-85131 MINGW64 ~ (master)
$ mkdir GitDemo

SEC@VELAN-85131 MINGW64 ~ (master)
$ cd GitDemo

SEC@VELAN-85131 MINGW64 ~/GitDemo (master)
$ git init
Initialized empty Git repository in C:/Users/SEC/GitDemo/.git/

SEC@VELAN-85131 MINGW64 ~/GitDemo (master)
$ echo "Welcome to GitDemo" > welcome.txt

SEC@VELAN-85131 MINGW64 ~/GitDemo (master)
$ git status
On branch master

No commits yet

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

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

SEC@VELAN-85131 MINGW64 ~/GitDemo (master)
$ git add welcome.txt
warning: in the working copy of 'welcome.txt', LF will be replaced by CRLF the next time Git touches it

SEC@VELAN-85131 MINGW64 ~/GitDemo (master)
$ git commit
[master (root-commit) 150c42c] commit
 1 file changed, 1 insertion(+)
 create mode 100644 welcome.txt

SEC@VELAN-85131 MINGW64 ~/GitDemo (master)
$ git log --oneline
150c42c (HEAD -> master) commit

SEC@VELAN-85131 MINGW64 ~/GitDemo (master)
$ ^C

SEC@VELAN-85131 MINGW64 ~/GitDemo (master)
$
```

Lab 4: Merging Branches


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

Switched to branch 'GitWork'

HP@LAPTOP-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)

HP@LAPTOP-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

HP@LAPTOP-PPAGAVBO MINGW64 ~/GitDemo (GitWork)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

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

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

HP@LAPTOP-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

HP@LAPTOP-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
* 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
```

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

HP@LAPTOP-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>

HP@LAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git difftool main GitWork

HP@LAPTOP-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.

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

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

HP@LAPTOP-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

HP@LAPTOP-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


```
 * [new branch]      Git-T03-HOL_002 -> Git-T03-HOL_002
branch 'Git-T03-HOL_002' set up to track 'origin/Git-T03-HOL_002'.

HP@LAPTOP-PPAGAVBO MINGW64 ~/GitDemo (Git-T03-HOL_002)
$ git checkout main
git status
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
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)
        hello.xml.orig

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

HP@LAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git branch -a
  Git-T03-HOL_002
* main
  remotes/origin/Git-T03-HOL_002
  remotes/origin/main

HP@LAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git branch
  Git-T03-HOL_002
* main

HP@LAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git push origin Git-T03-HOL_002
```



```
Everything up-to-date

HP@LAPTOP-PPAGAVBO MINGW64 ~/GitDemo (main)
$ git fetch origin
git log origin/Git-T03-HOL_002 --oneline --graph --decorate
warning: redirecting to https://gitlab.com/rehannaveid83/GitDemo.git/
* afee833 (origin/Git-T03-HOL_002, Git-T03-HOL_002) Add work.txt with initial content on Git-T03-HOL_002
* 6a7b7d7 (HEAD -> main, origin/main) Added .bak files to .gitignore
* 8d8e056 Resolved merge conflict in hello.xml
|\
| * 499fe8e Added and updated hello.xml on GitWork branch
* | f2315c8 Added hello.xml with different content on main
|/
* 6684407 Modified welcome.txt in GitNewBranch2
* fb8c574 Updated welcome.txt on GitNewBranch
* 1235878 Added newfile.txt on GitNewBranch
* 8add041 Added newfile.txt on GitNewBranch
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