

3. GitLab-HOL

Objectives

- Explain branching and merging
- Explain about creating a branch request in GitLab
- Explain about creating a merge request in GitLab

In this hands-on lab, you will learn how to:

- Construct a branch, do some changes in the branch, and merge it with master (or trunk)

Prerequisites

The following are the pre-requisites to complete this hands-on lab:

- Setting up Git environment with P4Merge tool for Windows

Notes*:

Please follow the below steps for creating a free account in GitHub.
Do not use cognizant credentials to login to GitHub.

Estimated time to complete this lab: **30 minutes**.

Please follow the instruction to complete the hands-on. Each instruction expects a command for the Git Bash.

Branching:

1. Create a new branch "**GitNewBranch**".
2. List all the local and remote branches available in the current trunk. Observe the "*" mark which denote the current pointing branch.
3. Switch to the newly created branch. Add some files to it with some contents.
4. Commit the changes to the branch.
5. Check the status with "**git status**" command.

Merging:

1. Switch to the master
2. List out all the differences between trunk and branch. These provide the differences in command line interface.
3. List out all the visual differences between master and branch using **P4Merge tool**.
4. Merge the source branch to the trunk.
5. Observe the logging after merging using "**git log --oneline --graph --decorate**"
6. Delete the branch after merging with the trunk and observe the git status.

OUTPUT:

Branching:

```
HP@VASUPPRADHA MINGW64 ~/GitEx (master)
$ git branch GitNewBranch
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (master)
$ git branch
  GitNewBranch
* master
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (master)
$ git branch -r
  origin/master
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (master)
$ git checkout GitNewBranch
Switched to branch 'GitNewBranch'
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (GitNewBranch)
$ echo "This is a file in GitNewBranch" > branchfile1.txt
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (GitNewBranch)
$ echo "Another file in GitNewBranch" > branchfile2.txt
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (GitNewBranch)
$ git add branchfile1.txt branchfile2.txt
warning: in the working copy of 'branchfile1.txt', LF will be replaced by CRLF t
he next time Git touches it
warning: in the working copy of 'branchfile2.txt', LF will be replaced by CRLF t
he next time Git touches it
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (GitNewBranch)
$ git commit -m "Added two files in GitNewBranch"
[GitNewBranch abccffd] Added two files in GitNewBranch
 2 files changed, 2 insertions(+)
 create mode 100644 branchfile1.txt
 create mode 100644 branchfile2.txt
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (GitNewBranch)
$ git status
On branch GitNewBranch
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    sample.log

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

Merging:

```
HP@VASUPPRADHA MINGW64 ~/GitEx (GitNewBranch)
$ git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 1 commit.
(use "git push" to publish your local commits)
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (master)
$ git diff master GitNewBranch
diff --git a/branchfile1.txt b/branchfile1.txt
new file mode 100644
index 0000000..70ab14d
--- /dev/null
+++ b/branchfile1.txt
@@ -0,0 +1 @@
+This is a file in GitNewBranch
diff --git a/branchfile2.txt b/branchfile2.txt
new file mode 100644
index 0000000..4285005
--- /dev/null
+++ b/branchfile2.txt
@@ -0,0 +1 @@
+Another file in GitNewBranch
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (master)
$ git merge GitNewBranch
Updating 9633270..abccffd
Fast-forward
 branchfile1.txt | 1 +
 branchfile2.txt | 1 +
 2 files changed, 2 insertions(+)
 create mode 100644 branchfile1.txt
 create mode 100644 branchfile2.txt
```

```
HP@VASUPPRADHA MINGW64 ~/GitEx (master)
$ git log --oneline --graph --decorate
* abccffd (HEAD -> master, GitNewBranch) Added two files in GitNewBranch
* 9633270 Update .gitignore to ignore log files and log folder
* b780c03 (origin/master) Added welcome.txt file This file contains an introductory message for version control practice.

HP@VASUPPRADHA MINGW64 ~/GitEx (master)
$ git branch -d GitNewBranch
Deleted branch GitNewBranch (was abccffd).
```