**Git Branching and Merging Hands-on Lab**

**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**

* 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. git branch GitNewBranch
3. **List all the local and remote branches** available in the current trunk. Observe the “\*” mark which denotes the current branch.
4. git branch -a
5. **Switch to the newly created branch**
6. git checkout GitNewBranch

Add some files with contents.

1. **Commit the changes to the branch**
2. git add .
3. git commit -m "Added new files in GitNewBranch"
4. **Check the status**
5. git status

**Merging**

1. **Switch to the master branch**
2. git checkout master
3. **List all differences between trunk and branch** (command line)
4. git diff GitNewBranch
5. **List visual differences using P4Merge tool**
6. git mergetool
7. **Merge the source branch to the trunk**
8. git merge GitNewBranch
9. **Observe logs after merging**
10. git log --oneline --graph --decorate
11. **Delete the branch after merging** and observe status
12. git branch -d GitNewBranch
13. git status

