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

1. Verify if master is in clean state.

2. Create a branch **"GitWork".** Add a file "hello.xml".

3. Update the content of "hello.xml" and observe the status

4. Commit the changes to reflect in the branch

5. Switch to master.

6. Add a file **"hello.xml"** to the master and add some different content than previous.

7. Commit the changes to the master

8. **Observe the log by executing "git log –oneline –graph –decorate –all"**

9. Check the differences with Git diff tool

10. For better visualization, use P4Merge tool to list out all the differences between master and branch

11. Merge the bran to the master

12. Observe the git mark up.

13. Use 3-way merge tool to resolve the conflict

14. Commit the changes to the master, once done with conflict

15. Observe the git status and add backup file to the .gitignore file.

16. Commit the changes to the .gitignore

17. List out all the available branches

18. Delete the branch, which merge to master.

19. Observe the log by executing **"git log –oneline –graph –decorate"**

```
(base) sanjays-MacBook-Air:git-lab sanjay$ git status
On branch master
nothing to commit, working tree clean
(base) sanjays-MacBook-Air:git-lab sanjay$ git checkout -b GitWork
Switched to a new branch 'GitWork'
(base) sanjays-MacBook-Air:git-lab sanjay$ touch hello.xml
(base) sanjays-MacBook-Air:git-lab sanjay$ echo "<greeting>Hello from GitWork branch!</greeting>">hello.xml
-bash: !: event not found
(base) sanjays-MacBook-Air:git-lab sanjay$ echo "<greeting>Hello from GitWork branch\!</greeting>">hello.xml
(base) sanjays-MacBook-Air:git-lab sanjay$ 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)
(base) sanjays-MacBook-Air:git-lab sanjay$ cat hello.xml
<greeting>Hello from GitWork branch\!</greeting>
(base) sanjays-MacBook-Air:git-lab sanjay$ git add hello.xml
(base) sanjays-MacBook-Air:git-lab sanjay$ git commit -m"Add hello.xml in GitWork branch"
[GitWork 8ea4911] Add hello.xml in GitWork branch
 1 file changed, 1 insertion(+)
 create mode 100644 hello.xml
(base) sanjays-MacBook-Air:git-lab sanjay$ git checkout master
Switched to branch 'master'
(base) sanjays-MacBook-Air:git-lab sanjay$ echo "<message>Hello from master branch!</message>">hello.xml
-bash: !: event not found
(base) sanjays-MacBook-Air:git-lab sanjay$ echo '<message>Hello from master branch!</message>'>hello.xml
(base) sanjays-MacBook-Air:git-lab sanjay$ cat hello.xml
<message>Hello from master branch!</message>
(base) sanjays-MacBook-Air:git-lab sanjay$ git add hello.xml
(base) sanjays-MacBook-Air:git-lab sanjay$ git commit -m "Add hello.xml in master branch"
[master 988b30e] Add hello.xml in master branch
 1 file changed, 1 insertion(+)
 create mode 100644 hello.xml
(base) sanjays-MacBook-Air:git-lab sanjay$ git log --online --graph --decorate --all
fatal: unrecognized argument: --online
(base) sanjays-MacBook-Air:git-lab sanjay$ git log --oneline --graph --decorate --all
* 988b30e (HEAD -> master) Add hello.xml in master branch
| * 8ea4911 (GitWork) Add hello.xml in GitWork branch
|/
* 84b4918 Initial commit
(base) sanjays-MacBook-Air:git-lab sanjay$ git diff master GitWork
diff --git a/hello.xml b/hello.xml
index 03fa4ca..f32602c 100644
--- a/hello.xml
+++ b/hello.xml
@@ -1 +1 @@
-<message>Hello from master branch!</message>
+<greeting>Hello from GitWork branch\!</greeting>
(base) sanjays-MacBook-Air:git-lab sanjay$ git diff master GitWork -- hello.xml
diff --git a/hello.xml b/hello.xml
index 03fa4ca..f32602c 100644
--- a/hello.xml
+++ b/hello.xml
@@ -1 +1 @@
-<message>Hello from master branch!</message>
+<greeting>Hello from GitWork branch\!</greeting>
(base) sanjays-MacBook-Air:git-lab sanjay$ git checkout master
Already on 'master'
(base) sanjays-MacBook-Air:git-lab sanjay$ git merge GitWork
```

```
--- a/hello.xml
+++ b/hello.xml
@@ -1 +1 @@
-<message>Hello from master branch!</message>
+<greeting>Hello from GitWork branch\!</greeting>
(base) sanjays-MacBook-Air:git-lab sanjay$ git checkout master
Already on 'master'
(base) sanjays-MacBook-Air:git-lab sanjay$ 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.
(base) sanjays-MacBook-Air:git-lab sanjay$ git status
On branch master
You have unmerged paths.
  (fix conflicts and run "git commit")
  (use "git merge --abort" to abort the merge)

Unmerged paths:
  (use "git add <file>..." to mark resolution)

        both added:      hello.xml

no changes added to commit (use "git add" and/or "git commit -a")
(base) sanjays-MacBook-Air:git-lab sanjay$ cat hello.xml
<<<<<<< HEAD
<message>Hello from master branch!</message>
=======
<greeting>Hello from GitWork branch\!</greeting>
>>>>>>> GitWork
(base) sanjays-MacBook-Air:git-lab sanjay$ git config --global merge.tool p4merge
(base) sanjays-MacBook-Air:git-lab sanjay$ git mergetool
Merging:
hello.xml

Normal merge conflict for 'hello.xml':
  {local}: created file
  {remote}: created file
The merge tool p4merge is not available as 'p4merge'
(base) sanjays-MacBook-Air:git-lab sanjay$ git commit -m "Resolve merge conflict in hello.xml"
U       hello.xml
error: Committing 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.
(base) sanjays-MacBook-Air:git-lab sanjay$ git status
On branch master
You have unmerged paths.
  (fix conflicts and run "git commit")
  (use "git merge --abort" to abort the merge)

Unmerged paths:
  (use "git add <file>..." to mark resolution)

        both added:      hello.xml

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

        hello_BACKUP_43077.xml
        hello_BASE_43077.xml
        hello_LOCAL_43077.xml
        hello_REMOTE_43077.xml
```

```
              hello_BACKUP_43077.xml
              hello_BASE_43077.xml
              hello_LOCAL_43077.xml
              hello_REMOTE_43077.xml

no changes added to commit (use "git add" and/or "git commit -a")
(base) sanjays-MacBook-Air:git-lab sanjay$ echo "*.orig">>.gitignore
(base) sanjays-MacBook-Air:git-lab sanjay$ git add .gitignore
(base) sanjays-MacBook-Air:git-lab sanjay$ git commit -m "Add backup files to .gitignore"
U       hello.xml
error: Committing 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.
(base) sanjays-MacBook-Air:git-lab sanjay$ git branch -a
  GitWork
* master
(base) sanjays-MacBook-Air:git-lab sanjay$ git branch -d GitWork
error: The branch 'GitWork' is not fully merged.
If you are sure you want to delete it, run 'git branch -D GitWork'.
(base) sanjays-MacBook-Air:git-lab sanjay$ git log --oneline --graph --decorate
* 988b30e (HEAD -> master) Add hello.xml in master branch
* 84b4918 Initial commit
(base) sanjays-MacBook-Air:git-lab sanjay$ git status
On branch master
You have unmerged paths.
  (fix conflicts and run "git commit")
  (use "git merge --abort" to abort the merge)

Changes to be committed:

        new file:   .gitignore

Unmerged paths:
  (use "git add <file>..." to mark resolution)

        both added:      hello.xml

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

        hello_BACKUP_43077.xml
        hello_BASE_43077.xml
        hello_LOCAL_43077.xml
        hello_REMOTE_43077.xml

(base) sanjays-MacBook-Air:git-lab sanjay$ git branch -a
  GitWork
* master
(base) sanjays-MacBook-Air:git-lab sanjay$ git branch -a
  GitWork
* master
(base) sanjays-MacBook-Air:git-lab sanjay$ git branch -a -v
  GitWork 8ea4911 Add hello.xml in GitWork branch
* master  988b30e Add hello.xml in master branch
(base) sanjays-MacBook-Air:git-lab sanjay$ git log --online --graph --decorate -10
fatal: unrecognized argument: --online
(base) sanjays-MacBook-Air:git-lab sanjay$ git log --oneline --graph --decorate -10
* 988b30e (HEAD -> master) Add hello.xml in master branch
* 84b4918 Initial commit
(base) sanjays-MacBook-Air:git-lab sanjay$
```