

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"**

OUTPUT:

1. Verify Clean Master State

```
PS E:\Cognizant-Java FSE\Week 8> git checkout main
Already on 'main'
Your branch is ahead of 'origin/main' by 3 commits.
  (use "git push" to publish your local commits)
PS E:\Cognizant-Java FSE\Week 8> 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)
  1.Git-HOL.pdf
  2.Git-HOL.pdf
  3.Git-HOL.pdf
  log/

nothing added to commit but untracked files present (use "git add" to track)
PS E:\Cognizant-Java FSE\Week 8>
```

2. Create a Branch and Add a File

```

● PS E:\Cognizant-Java FSE\Week 8> git checkout -b GitWork
Switched to a new branch 'GitWork'
● PS E:\Cognizant-Java FSE\Week 8> echo "<message>Hello from GitWork</message>" > hello.xml
● PS E:\Cognizant-Java FSE\Week 8> git status
On branch GitWork
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        1.Git-HOL.pdf
        2.Git-HOL.pdf
        3.Git-HOL.pdf
        hello.xml
        log/

nothing added to commit but untracked files present (use "git add" to track)
○ PS E:\Cognizant-Java FSE\Week 8>

```

3. Update File and Commit

```

● PS E:\Cognizant-Java FSE\Week 8> echo "<note>Update from GitWork branch</note>" >> hello.xml
● PS E:\Cognizant-Java FSE\Week 8> git add hello.xml
● PS E:\Cognizant-Java FSE\Week 8> git commit -m "Add hello.xml with content from GitWork"
[GitWork 211f309] Add hello.xml with content from GitWork
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 Week 8/hello.xml
○ PS E:\Cognizant-Java FSE\Week 8>

```

4. Switch to Master and Add Same File

```

● PS E:\Cognizant-Java FSE\Week 8> echo "<note>Update from GitWork branch</note>" >> hello.xml
PS E:\Cognizant-Java FSE\Week 8> git add hello.xml
PS E:\Cognizant-Java FSE\Week 8> git commit -m "Add hello.xml with content from GitWork"
[GitWork 211f309] Add hello.xml with content from GitWork
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 Week 8/hello.xml
● PS E:\Cognizant-Java FSE\Week 8> git checkout master
Switched to branch 'master'
PS E:\Cognizant-Java FSE\Week 8> echo "<note>Update from GitWork branch</note>" >> hello.xml
PS E:\Cognizant-Java FSE\Week 8> git add hello.xml
PS E:\Cognizant-Java FSE\Week 8> git commit -m "Add hello.xml with content from GitWork"
>>
[GitWork f443752] Add hello.xml with content from GitWork
 1 file changed, 0 insertions(+), 0 deletions(-)
● PS E:\Cognizant-Java FSE\Week 8>

```

5. View the Log as Graph

```

● PS E:\Cognizant-Java FSE\Week 8> git log --oneline --graph --decorate --all
* f443752 (HEAD -> GitWork) Add hello.xml with content from GitWork
* 211f309 Add hello.xml with content from GitWork
* f6c6367 (main) Add feature.txt in GitNewBranch
* 555ac9d Add .gitignore to ignore .log files and log folder
* 121518c Add .gitignore to ignore .log files and log folder
* 824eefd (origin/main) Week 7 uploaded
* 98eb2a0 Week 6 uploaded
* d523359 Week 5 uploaded
* 4012c00 Week 4 Uploaded
* 86bb8f4 Week 3 Uploaded
* 15fd9eb Added Week 2 Hands-on
* 8798f2f Completed Week 1 Hands-on
* 5d46635 Initial commit: Java FSE week-wise exercises
○ PS E:\Cognizant-Java FSE\Week 8>

```

6. Check Differences Between Branches

```

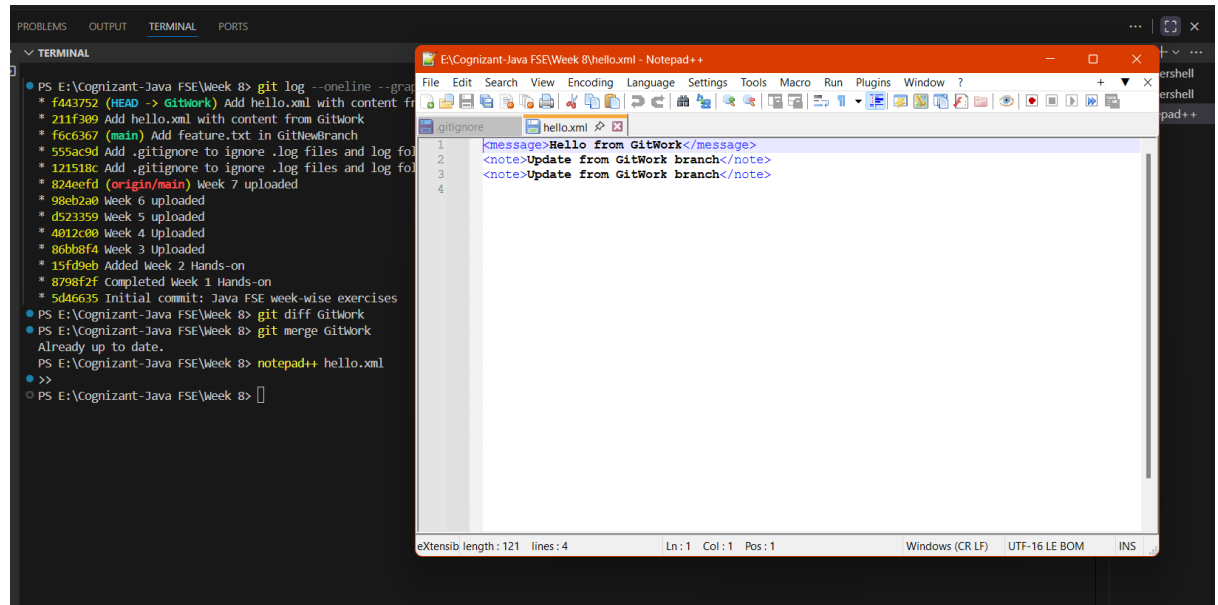
● PS E:\Cognizant-Java FSE\Week 8> git diff GitWork
○ PS E:\Cognizant-Java FSE\Week 8>

```

7. Merge GitWork into Master

```
PS E:\Cognizant-Java FSE\Week 8> git merge GitWork
Already up to date.
PS E:\Cognizant-Java FSE\Week 8>
```

8. Observe Git Conflict Markers



The screenshot shows a terminal window on the left and a Notepad++ editor on the right. The terminal displays the output of several Git commands: `git log --oneline --graph`, `git diff GitWork`, and `git merge GitWork`. The Notepad++ editor shows the content of `hello.xml`, which contains XML tags for a message and two update notes. The terminal output indicates that the merge was successful and the working directory is up to date.

```
PS E:\Cognizant-Java FSE\Week 8> git log --oneline --graph
* f443752 (HEAD -> GitWork) Add hello.xml with content from GitWork
* 211f309 Add hello.xml with content from GitWork
* f6c6367 (main) Add feature.txt in GitNewBranch
* 595ac9d Add .gitignore to ignore .log files and log files
* 121518c Add .gitignore to ignore .log files and log files
* 824eefd (origin/main) Week 7 uploaded
* 98eb2a0 Week 6 uploaded
* d523359 Week 5 uploaded
* 4012c00 Week 4 Uploaded
* 86bb8f4 Week 3 Uploaded
* 15fd9eb Added Week 2 Hands-on
* 879df2f Completed Week 1 Hands-on
* 5d46635 Initial commit: Java FSE week-wise exercises
PS E:\Cognizant-Java FSE\Week 8> git diff GitWork
PS E:\Cognizant-Java FSE\Week 8> git merge GitWork
Already up to date.
PS E:\Cognizant-Java FSE\Week 8> notepad++ hello.xml
>>
PS E:\Cognizant-Java FSE\Week 8>
```

9. After Manual or Tool-Based Merge

```
PS E:\Cognizant-Java FSE\Week 8> git add hello.xml
PS E:\Cognizant-Java FSE\Week 8> git commit -m "Resolve merge conflict in hello.xml"
On branch GitWork
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    1.Git-HOL.pdf
    2.Git-HOL.pdf
    3.Git-HOL.pdf
    log/

nothing added to commit but untracked files present (use "git add" to track)
PS E:\Cognizant-Java FSE\Week 8>
```

10. Check Status and Add Backup to .gitignore

```
PS E:\Cognizant-Java FSE\Week 8> git status
On branch GitWork
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    1.Git-HOL.pdf
    2.Git-HOL.pdf
    3.Git-HOL.pdf
    log/

nothing added to commit but untracked files present (use "git add" to track)
PS E:\Cognizant-Java FSE\Week 8>
```

11. 13. List All Branches

```
● PS E:\Cognizant-Java FSE\Week 8> git branch
* GitWork
  main
○ PS E:\Cognizant-Java FSE\Week 8>
```

12. Delete Merged Branch

```
● PS E:\Cognizant-Java FSE\Week 8>

git branch -D GitWork
Deleted branch GitWork (was f443752).
○ PS E:\Cognizant-Java FSE\Week 8>
```