**Steps:**

**Branching**

1. Create folder and initialize repository:

* mkdir GitHandsOn4
* cd GitHandsOn4
* git init
* git branch -M main

2. Add initial commit in main branch:

* echo "Initial commit" > README.md
* git add README.md
* git commit -m "Initial commit on main"

3. Create and switch to branch GitWork:

* git checkout -b GitWork

4. Create hello.xml in GitWork branch and commit:

# add branch-specific content

* git add hello.xml
* git commit -m "Add hello.xml on GitWork (branch version)"

5. Switch back to main, create hello.xml with different content, and commit:

* git checkout main

# add main-specific content

* git add hello.xml
* git commit -m "Add hello.xml on main (conflicting version)"

**Merging & Conflict Resolution**

6. Compare branches:

* git diff main..GitWork

7. Merge and resolve conflict:

* git merge GitWork # conflict occurs

# open hello.xml in Notepad++, edit to final version

* git add hello.xml
* git commit -m "Resolve merge conflict in hello.xml"

8. Add .gitignore for backup files:

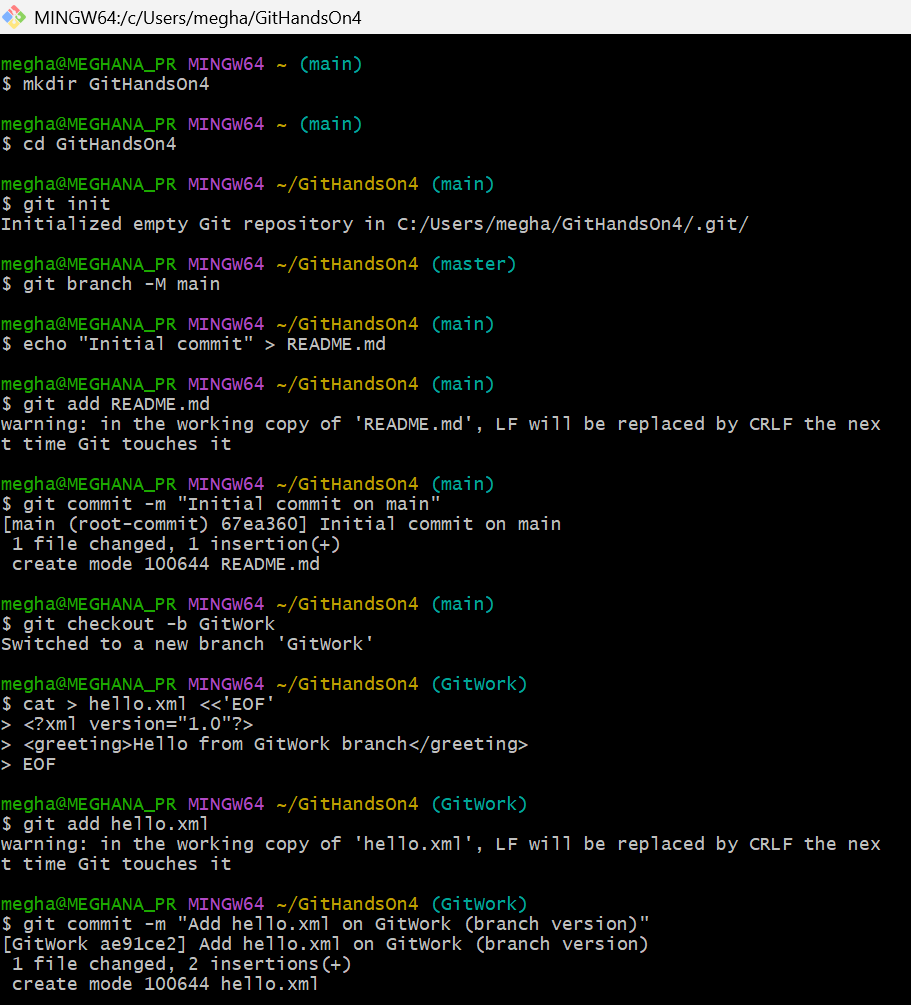
* echo "hello.xml.bak" >> .gitignore
* echo "\*.bak" >> .gitignore
* git add .gitignore
* git commit -m "Add .gitignore for backup files"

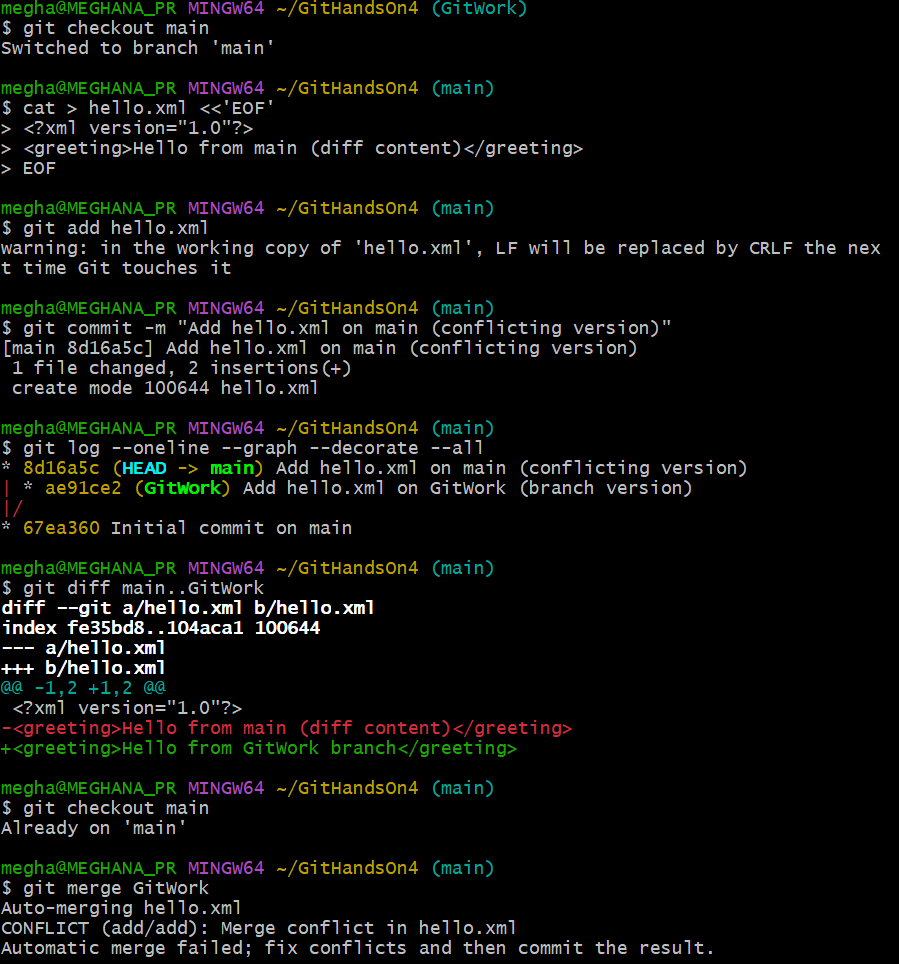
**Cleanup & Verification**

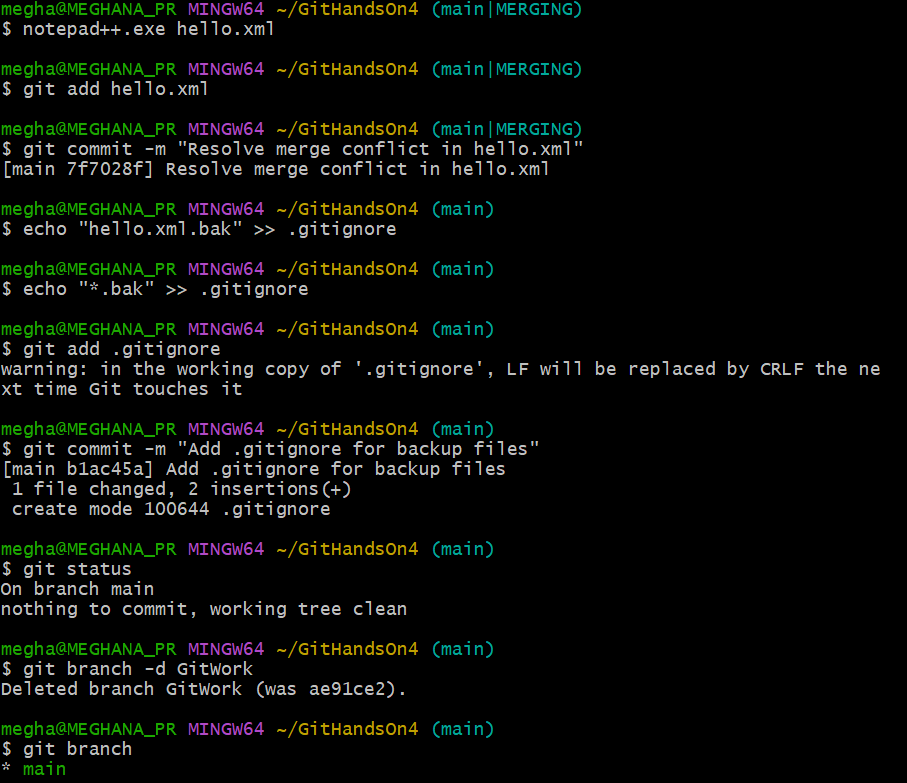
9. Delete merged branch and verify:

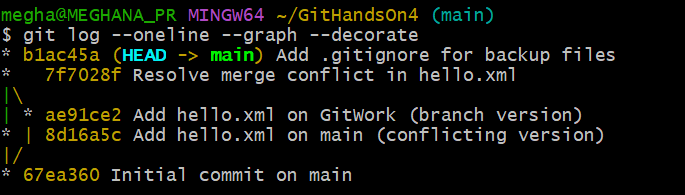
* git branch -d GitWork
* git branch
* git log --oneline --graph --decorate
* git status

**Output:**

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