

Lesson 02 Demo 08

Resolving Merge Conflicts on File Modifications

Objective: To demonstrate the resolution of merge conflicts when resolving conflicts in Git when the same file is modified on different branches

Tools required: Git and GitHub

Prerequisites: To create a Git repository, refer Lesson 02 Demo 01

Steps to be followed:

1. Create a new branch
2. Create a new file and commit changes
3. Switch back to the main branch
4. Make different changes to the same file
5. Merge the branches and resolve the conflict

Step 1: Create a new branch

1.1 Execute the following commands to create and modify a new file in the main branch:

touch example.txt

echo "Hello, this is an example file. Here we can write text." > example.txt

```
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$ touch example.txt
echo "Hello, this is an example file. Here we can write text." > example.txt
```

1.2 Run the following commands to add and commit the changes:

git add example.txt

git commit -m "Add example file"

```
priyanshurajsim@ip-172-31-28-201:~/Priyanshu/lesson-end-project$ git add example.txt
git commit -m "Add example file"
[feature-branch 3afa0a8] Add example file
1 file changed, 1 insertion(+)
create mode 100644 example.txt
priyanshurajsim@ip-172-31-28-201:~/Priyanshu/lesson-end-project$ █
```

- 1.3 Run the command below to create and switch to a **new-branch** branch:

git checkout -b new-branch

```
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$ git checkout -b new-branch
Switched to a new branch 'new-branch'
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$
```

Step 2: Create a new file and commit changes

- 2.1 Execute the following commands to create a new file in the **new-branch**:

echo "Hello, this is an example code." > example.txt

```
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$ echo "Hello, this is an example code." > example.txt
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$
```

- 2.2 Run the following commands to add and commit the changes:

git add example.txt

git commit -m "Add example file"

```
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$ git add example.txt
git commit -m "Add example file"
[new-branch (root-commit) a8152eb] Add example file
1 file changed, 1 insertion(+)
create mode 100644 example.txt
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$
```

Step 3: Switch back to the main branch

- 3.1 Use the command below to switch to the main branch:

git checkout master

```
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$ git checkout master
Switched to branch 'master'
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$
```

Step 4: Make different changes to the same file

4.1 Execute the following command to modify the **example.txt** file in the main branch:

echo "Hello, this is me." > example.txt

```
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$ echo "Hello, this is me." > example.txt
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$
```

4.2 Run the following commands to add and commit the changes:

git add example.txt

git commit -m "Modify example file"

```
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$ git add example.txt
git commit -m "Modify example file"
[master caf39b5] Modify example file
 1 file changed, 1 insertion(+), 1 deletion(-)
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$
```

Step 5: Merge the branches and resolve the conflict

5.1 Merge the branch using the following command:

git merge new-branch

```
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$ git merge new-branch
Auto-merging example.txt
CONFLICT (content): Merge conflict in example.txt
Automatic merge failed; fix conflicts and then commit the result.
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$
```

Note: Altering the same file differently on two branches will result in a merge conflict. Resolve it, open the conflicted file in a text editor and choose which changes to retain.

5.2 After editing, add the resolved file to the staging area using the following command:

git add example.txt

```
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$ git add example.txt
```

5.3 Use the following command to commit the resolved changes:

git commit -m "Resolve merge conflict"

```
git commit -m "Resolve merge conflict"
[master 4053dde] Resolve merge conflict
priyanshurajsim@ip-172-31-69-72:~/Priyanshu$
```

By following these steps, you have successfully demonstrated the resolution of merge conflicts for resolving conflicts in Git when the same file is modified on different branches.