

Lab Exercise 1- Working with Git Revert

Pratik Agrawal

(500123601-Batch2)

Lab Exercise: Git Revert

This exercise will guide you through reverting changes in Git. The git revert command is used to create a new commit that undoes the changes introduced by a previous commit without modifying the history.

Objective

- Learn how to use git revert to undo changes from specific commits.
 - Practice handling merge conflicts during a revert.
-

Prerequisites

1. Install Git on your system.
2. Set up a Git repository:

```
git init git-revert-lab
```

```
cd git-revert-lab
```

Steps

1. Set Up the Repository

1. Create a file:

```
echo "Line 1" > file.txt
```

2. Stage and commit the file:

```
git add file.txt  
  
git commit -m "Initial commit: Add file.txt with Line 1"
```

3. Add more changes:

```
echo "Line 2" >> file.txt  
  
git commit -am "Add Line 2 to file.txt"
```

4. Add another change:

```
echo "Line 3" >> file.txt  
  
git commit -am "Add Line 3 to file.txt"
```

5. Verify the commit history:

```
git log --oneline
```

Example output:

```
1 file changed, 3 insertions(+), 0 deletions(-)  
PS D:\DevSecOps Lab\git-revert-lab> git log --oneline  
9b3d84b (HEAD -> main) Add Line 3 to file.txt  
96ec470 Add Line 2 to file.txt  
61f9cef Initial commit: Add file.txt with Line 1  
PS D:\DevSecOps Lab\git-revert-lab> 
```

2. Revert the Last Commit

1. Revert the most recent commit:

```
git revert HEAD
```

2. Git will open a text editor for the commit message. Save and close the editor to complete the revert.
3. Verify the contents of file.txt:

```
cat file.txt
```

Output:

Initial commit. Add file.txt with Line 1

```
PS D:\DevSecOps Lab\git-revert-lab> cat file.txt
```

Line 1

Line 2

```
PS D:\DevSecOps Lab\git-revert-lab> 
```

Share — indexing completed

4. Check the commit history:

```
git log --oneline
```

Example output:

```
PS D:\DevSecOps Lab\git-revert-lab> git log --oneline
491de52 (HEAD -> main) Revert "Add Line 3 to file.txt"
9b3d84b Add Line 3 to file.txt
96ec470 Add Line 2 to file.txt
61f9cef Initial commit: Add file.txt with Line 1
PS D:\DevSecOps Lab\git-revert-lab>
```

3. Handle Merge Conflicts During Revert

1. Modify file.txt:

```
echo "Conflict Line" >> file.txt
```

```
git commit -am "Add Conflict Line"
```

2. Revert the second commit (8b2a1c1 again) to trigger a conflict:

```
git revert 8b2a1c1
```

3. Git will indicate a conflict. Resolve it:
 - Open file.txt and remove conflict markers.
 - Keep the desired lines.
4. Stage the resolved file:

```
git add file.txt
```

5. Complete the revert:

```
nothing to commit, working tree clean
PS D:\DevSecOps Lab\git-revert-lab> git log --oneline
f2cdad0 (HEAD -> main) Add Conflict Line
491de52 Revert "Add Line 3 to file.txt"
9b3d84b Add Line 3 to file.txt
96ec470 Add Line 2 to file.txt
61f9cef Initial commit: Add file.txt with Line 1
PS D:\DevSecOps Lab\git-revert-lab>
```