

# Git Operations – Bank App Project

## 1. Create GitHub Repository

1. Create repository on GitHub → bankapp.
2. Initialize with a README.md file.

## 2. Clone Repository Locally

```
cd ~
mkdir bankapp
cd bankapp

git init
git remote add origin https://github.com/USERNAME/bankapp.git
git pull origin main
```

## 3. Work on Main Branch

```
git checkout -b main

echo "<?php echo 'Welcome to Bank App'; ?>" > index.php
echo "<?php echo 'About Bank App'; ?>" > about.php

git add index.php about.php
git commit -m "Added index.php and about.php"
git push origin main
```

## 4. View Git History and Objects

```
git log --oneline --graph
git rev-parse HEAD
git cat-file -p <commit_hash>
git cat-file -p <tree_hash>
git cat-file -p <blob_hash>
```

## 5. Create and Work on Feature Branch rd

```
git checkout -b rd

echo "<?php echo 'Research & Development'; ?>" > rd.php
git add rd.php
git commit -m "Added rd.php file"
git push origin rd

# Create Pull Request on GitHub from rd → main
```

## 6. Create Another Branch fd and Merge Locally

```
git checkout -b fd

echo "<?php echo 'Feature Development'; ?>" > fd.php
git add fd.php
git commit -m "Added fd.php file"

git checkout main
git merge fd
git push origin main
```

## 7. Compare Changes – git diff

```
# Compare unstaged changes
git diff

# Compare staged changes
git diff --cached

# Compare commits
git diff <commit1> <commit2>
```

## 8. Save Temporary Work – git stash

```
git checkout -b stas

echo "<?php echo 'Stash Example'; ?>" > stash.php
# Do not stage this file

git stash
git stash list

git checkout main
git checkout stas

git stash apply
git stash pop
git stash drop
```

## 9. Undo Commit – git revert

```
echo "<?php echo 'Log File'; ?>" > log.php
git add log.php
git commit -m "Added log.php file"

git log --oneline
git revert <commit_hash>
git push origin main
```

## 10. Verify and Cleanup

```
git branch -a
git log --oneline --graph
git status
```

## Summary

- Repo initialized with README
- Branches: main, rd, fd, stas
- PR from rd → main
- Merge fd → main locally
- Used git diff to compare changes
- Used git stash to temporarily save work
- Used git revert to undo commit safely