Step-by-step Guide Week 4 Daily Task

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops$ mkdir my-git-project
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops$ cd my-git-project
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git init
```

- You created a new directory called my-git-project.
- You moved into the newly created directory.
- You initialized a new Git repository in the directory, making it a version-controlled project.

Initialized empty Git repository in /mnt/d/Zionet Courses/Zionet Devops/my-git-project/.git/

```
מיקיית קבצים 27/05/2025 10:56 תיקיית קבצים .git
```

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git branch -M main
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ echo "Initial content" > README.md
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git add README.md
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git commit -m "Initial commit"
[main (root-commit) 33f4cal] Initial commit
1 file changed, 1 insertion(+)
create mode 1006444 README.md
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git branch
* main
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ |
```

- This renames the current branch (default master) to main. It's a common convention to use main as the default branch.
- This creates a file named README.md with the text "Initial content" inside.
- This stages the README.md file, telling Git you want to include it in the next commit.
- This commits the staged changes to the repository with the message "Initial commit".
- This shows the current branches in the repository. The * indicates the active branch, which is main.

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git branch feature-a
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git branch feature-b
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git branch
feature-a
feature-b
* main
```

- This command creates a new branch named feature-a. The branch is created but not yet checked out (you're still on main).
- Similarly, this command creates another branch named feature-b.
- This command lists all available branches:
- main (with an asterisk * indicating it is the currently active branch).

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git switch feature-a
Switched to branch 'feature-a'
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git branch
* feature-a
    feature-b
    main
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git switch feature-b
Switched to branch 'feature-b'
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git branch
    feature-a
    * feature-b
    main
```

• git switch feature-a:

This command moves you to the feature-a branch. The message confirms:

Switched to branch 'feature-a'.

• git branch:

The * indicates the current branch. You are now on feature-a.

• git switch feature-b

This moves you to the feature-b branch. The message confirms:

Switched to branch 'feature-b'.

• git branch:

Again, the * indicates you are now on feature-b.

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git switch feature-a
Switched to branch 'feature-a'
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ echo "Hello from feature-a" > greetings.txt
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git add greetings.txt
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git commit -m "Add greetings.txt in feature-a"
[feature-a dal535a] Add greetings.txt in feature-a
1 file changed, 1 insertion(+)
create mode 1006444 greetings.txt
```

• git switch feature-a:

You moved to the feature-a branch to make changes there.

echo "Hello from feature-a" > greetings.txt:

This command creates a new file called <code>greetings.txt</code> and writes the text "Hello from feature-a" into it.

git add greetings.txt:

You staged the file for the next commit. Git now knows you want to include this file in your

git commit -m "Add greetings.txt in feature-a"

This commits the change with a descriptive message. The file greetings.txt is now part of the feature-a branch.

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git switch feature-b
Switched to branch 'feature-b'
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ echo "Hello from feature-b" > greetings.txt
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git add greetings.txt
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git commit -m "Add greetings.txt in feature-b"
[feature-b aa7b4bf] Add greetings.txt in feature-b
1 file changed, 1 insertion(+)
create mode 100644 greetings.txt
```

• git switch feature-a:

You moved to the feature-a branch to make changes there.

• echo "Hello from feature-a" > greetings.txt:

This command creates a new file called <code>greetings.txt</code> and writes the text "Hello from feature-a" into it.

git add greetings.txt:

You staged the file for the next commit. Git now knows you want to include this file in your commit.

git commit -m "Add greetings.txt in feature-a"

This commits the change with a descriptive message. The file greetings.txt is now part of the feature-a branch.

• git switch feature-a:

You switched to feature-a to prepare for the merge.

• git merge feature-b:

You tried to merge changes from feature-b into feature-a.

Git tried to auto-merge the files, but a conflict happened because both branches modified the same file (greetings.txt).

• <<<<< HEAD

shows the content from your current branch (feature-a).

• ======

separates the two versions.

• >>>>> feature-b shows the content from feature-b.

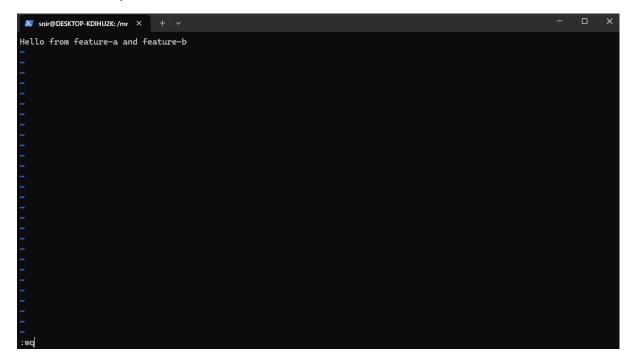
nir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project\$ vim greetings.tx

vim greetings.txt:

You opened the file greetings.txt using the Vim text editor.

Vim allows you to manually edit the file and resolve the merge conflict.

- **Remove** the conflict markers (<<<<<, ======, >>>>).
- Decide what content you want to keep
- For example:



• Exit Insert mode:

Press Esc.

• Save and Exit:

Type:wq

• press Enter.

cat greetings.txt:

This shows the merged content

git status:

Git reminds you that there are unresolved paths (greetings.txt) and you need to add the file to mark the conflict as resolved.

• git add greetings.txt:

This marks the file as resolved and stages it for commit.

• git commit -m "Resolved merge conflicts and merged feature-b into feature-a"

This creates a commit that finalizes the merge of feature-b into feature-a after resolving the conflict.

```
KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git log
                                                                                                         --oneline --graph --all
     be6d59b (HEAD -> feature-a) Resolved merge conflicts and merged feature-b into feature-a
   * aa7b4bf (feature-b) Add greetings.txt in feature-b
   da1535a Add greetings.txt in feature-a
* 33f4ca1 (main) Initial commit
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git switch feature-a
Already on 'feature-a'
         SKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git rebase main
Auto-merging greetings.txt
CONFLICT (add/add): Merge conflict in greetings.txt
error: could not apply aa7b4bf... Add greetings.txt in feature-b
hint: Resolve all conflicts manually, mark them as resolved with
hint: "git add/rm <conflicted_files>", then run "git rebase --continue".
hint: You can instead skip this commit: run "git rebase --skip".
hint: To abort and get back to the state before "git rebase", run "git rebase --abort".
Could not apply aa7b4bf... Add greetings.txt in feature-b
                 KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ cat greetings.txt
<<<<< HEAD
Hello from feature-a
Hello from feature-b
>>>>> aa7b4bf (Add greetings.txt in feature-b)
```

• git log --oneline --graph —all:

Shows a visual tree of commits and Helps you see how branches (main, feature-a, feature-b) relate to each other.

• git switch feature-a:

You prepared to rebase feature-a onto main.

git rebase main:

You tried to replay the commits of feature-a on top of main.

But... a conflict happened again in <code>greetings.txt</code> because both branches modified the same file.

Resolved that with vm again

git add.

After editing greetings.txt to resolve the conflict, you added the changes to the staging area.

git rebase –continue:
 This command tells Git: "I've fixed the conflict, let's proceed with the rebase."

```
| Month | Mont
```

- You're inside **GNU Nano** editor (or Vim-like editor) editing the **commit message** during the rebase process.
- Git paused the rebase to allow you to write a commit message for the rebased commit.
- You can edit the commit message as you like (or leave it as is).
- Ctrl + $O \rightarrow$ to save, Enter \rightarrow to confirm the file name.
- Ctrl + X → to exit the editor

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git log --oneline --graph --all
* 9c817f3 (HEAD -> feature-a) Add greetings.txt in feature-a and feature-b
* da1535a Add greetings.txt in feature-a
| * aa7b4bf (feature-b) Add greetings.txt in feature-b
|/
* 33f4cal (main) Initial commit
```

- feature-a has a combined commit:
 - 9c817f3 Add greetings.txt in feature-a and feature-b This is your rebased commit that includes the changes from both feature-a and feature-b.
- The old commits: dal535a (from feature-a) and aa7b4bf (from feature-b) were part of the history, but after the rebase, feature-a has the updated combined commit on top.
- The main branch still has the initial commit (33f4fca).

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git log feature-b --oneline
aa7b4bf (feature-b) Add greetings.txt in feature-b
33f4cal (main) Initial commit
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git switch main
Switched to branch 'main'
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git cherry-pick aa7b4bf
[main 45ab58f] Add greetings.txt in feature-b
Date: Tue May 27 11:08:53 2025 +0300
1 file changed, 1 insertion(+)
create mode 1006444 greetings.txt
```

• git log feature-b –oneline:

This shows the log of feature-b. The commit hash aa7b4bf represents the commit

git switch main:

You switched to the main branch to apply the commit there.

• git cherry-pick aa7b4bf:

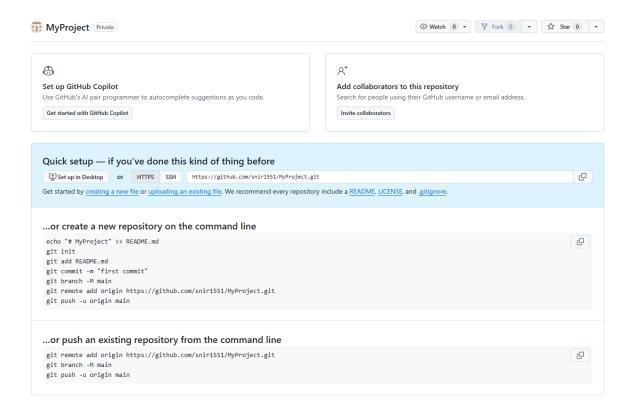
This copies the specific commit aa7b4bf from feature-b and applies it to the current branch (main).

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git log --oneline --graph --all
* 45ab58f (HEAD -> main) Add greetings.txt in feature-b
| * 9c817f3 (feature-a) Add greetings.txt in feature-a and feature-b
| * da1535a Add greetings.txt in feature-a
|/
| * aa7b4bf (feature-b) Add greetings.txt in feature-b
|/
* 33f4cal Initial commit
```

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository. Required fields are marked with an asterisk (*). Owner * Repository name * 📻 snir1551 🔻 MyProject MyProject is available. Great repository names are short and memorable. Need inspiration? How about jubilant-carnival? Description (optional) Anyone on the internet can see this repository. You choose who can commit. You choose who can see and commit to this repository. Initialize this repository with: Add a README file This is where you can write a long description for your project. Learn more about READMES. Add .gitignore .gitignore template: None 🔻 Choose which files not to track from a list of templates. Learn more about ignoring files. Choose a license License: None ▼ A license tells others what they can and can't do with your code. Learn more about licenses. (i) You are creating a private repository in your personal account. Create repository

- Owner: The repository will be created under your GitHub account: snir1551
- Repository Name: You named your repository: MyProject.
- Description (Optional): This is an optional field where you can write a short description of your project.
- Visibility: You selected Private:
- Initialize the Repository (Optional):
- Final Step: Click the green Create repository button to create the repository on GitHub.



After creating your new repository MyProject on GitHub, this is the setup page you see

```
Sni*QDESKTOP-KOINK2K:/mmt/d/Zionet Courses/Zionet Devops/my-git-project$ git remote set-url origin git@github.com:snir1551/MyProject.git
sni*QDESKTOP-KOINK2K:/mmt/d/Zionet Courses/Zionet Devops/my-git-project$ git push -u origin main
Enumerating objects: 100% (6/6), done.

Counting objects: 100% (6/6), done.

Delta compression using up to 20 threads
Compression gobjects: 100% (6/6), Sib bytes | 25.00 KiB/s, done.

Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:snir1551/MyProject.git
* [new branch] main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.

sni*QDESKTOP-WOINCHIE;:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git push -u origin feature-a
Enumerating objects: 100% (6/6), 60° bytes | 28.00 KiB/s, done.

Counting objects: 100% (6/6), 60° bytes | 28.00 KiB/s, done.

Counting objects: 100% (6/6), 60° bytes | 28.00 KiB/s, done.

Total 6 (delta 0), reused 0 (delta 0), pack-reused 0

remote:

remote: Create a pull request for 'feature-a' on GitHub by visiting:

remote: https://github.com/snit551/MyProject.git
* [new branch] feature-a -> feature-a

Branch 'feature-a' set up to track remote branch 'feature-a' from 'origin'.

sni*QDESKTOP-MOINTALE; mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git push -u origin feature-b
Enumerating objects: 100% (4/4), done.

Delta compression using up to 20 threads

Compressing objects: 100% (4/4), done.

Delta compression using up to 20 threads

Compressing objects: 100% (3/3), 300 bytes | 23.00 KiB/s, done.

Total 3 (delta 0), reused 0 (delta 0), pack-reused 0

remote:

remote: Create a pull request for 'feature-b' on GitHub by visiting:

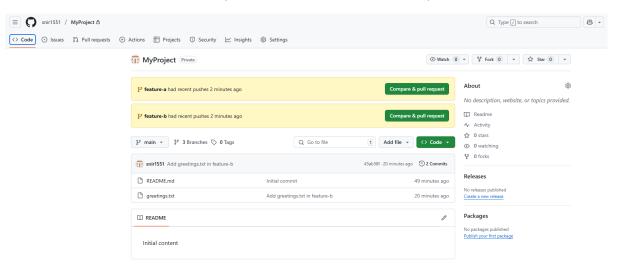
remote: https://github.com/snir1551/MyProject.pull/new/feature-b

remote: Create a pull request for 'feature-b' on GitHub by visiting:

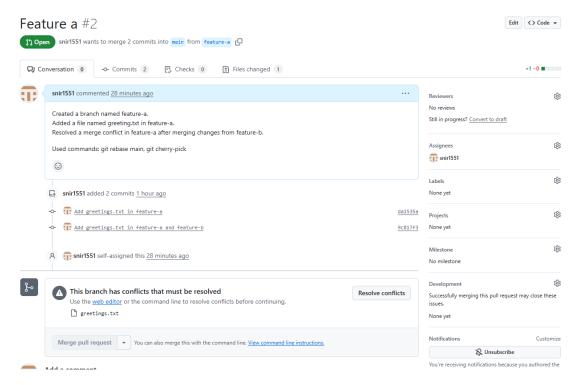
remote: Create a pull request for 'feature-b' on GitHub by visiting:

remote: the public com/snir1551/MyProject.git
* [new branch] feature-b' set up to track remote branch 'feature-b' from 'origin'.
```

- git remote set-url origin git@github.com:snir1551/MyProject.git You set the **SSH remote URL** for your GitHub repository.
- git push -u origin main
 The main branch was pushed and connected to the origin remote.
- git push -u origin feature-a
 The feature-a branch was pushed, and GitHub gave you a link to create a Pull Request:
- git push -u origin feature-b
- The feature-b branch was pushed too, with a similar Pull Request link:



• Click the Compare & pull request button for feature—a and feature—b to create PRs and start a code review/merge process.



- You opened a Pull Request (PR) to merge the feature-a branch into main.
- Your comment in the PR clearly describes:
- Conflict Detected!
- You need to resolve the conflict before you can merge.
- Use the CLI:

Pull the branch locally.

Fix the conflict.

Push the resolved file.

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git merge main
Auto-merging greetings.txt
CONFLICT (add/add): Merge conflict in greetings.txt
Automatic merge failed; fix conflicts and then commit the result.
```

• git merge main:

Git tried to merge the changes from main into your current branch, There's a conflict in the file greetings.txt.



Edit grettings.txt with vim like before

• vim greetings.txt:

You opened greetings.txt in Vim and manually resolved the conflict by removing the conflict markers (e.g., <<<<<, ======, >>>>).

• git status:

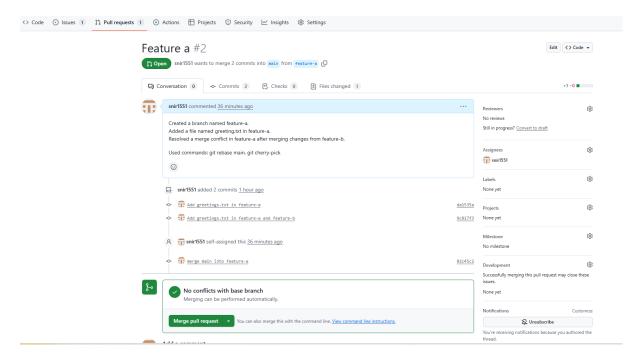
Git confirmed that the conflict was resolved, and you were ready to stage and commit.

git add .

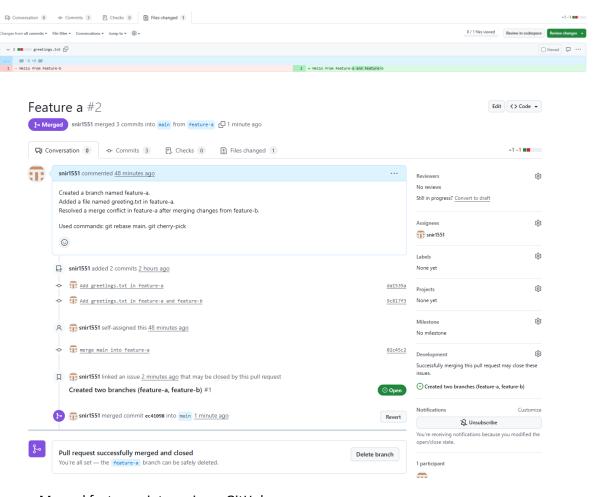
You staged the resolved file (greetings.txt).

- git commit -m "merge main into feature-a"
 You created a commit that finalizes the merge of main into feature-a.
- git push

The feature-a branch is now up-to-date on GitHub, including the merge from main.



- No conflicts with the base branch (main).
- The Merge pull request button is now active and ready.



• Merged feature-a into main on GitHub.

• git switch feature-a:

You switched to the feature-a branch.

echo "Temporary changes" >> greetings.txt
 You appended "Temporary changes" to the file.

cat greetings.txt:

You saw what file contain

• git status:

Git shows the file greetings.txt is modified but not yet staged for commit.

git stash:

This **temporarily saved** your local changes (the modification to greetings.txt) into the stash and restored the file to its previous state:

cat greetings.txt:

The file is back to the previous version (before the temporary changes):

• git status:

Clean working tree! No changes.

git stash pop:

Applies the last stashed changes back into your working directory, Then **removes** (drops) that stash from the stash list.

```
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ echo "Fix bug and change commit" >> greetings.txt
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git add greetings.txt
snir@DESKTOP-KDIHU2K:/mnt/d/Zionet Courses/Zionet Devops/my-git-project$ git commit --amend
```

- echo "Fix bug and change commit" >> greetings.txt
 You appended the text "Fix bug and change commit" to the file greetings.txt.
- git add greetings.txt
 You added the modified file to the staging area, preparing it for commit.
- git commit –amend
 This opened the editor (likely Vim or Nano) to edit the previous commit's message. The -- amend command lets you:
 - Update the content of the last commit,
 - Change the commit message if you want.