

# Proceso de Desarrollo de Software

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# Actividad práctica "Simular Merge con github.com"

Paso a paso práctico con GitHub.com para demostrar cómo hacer un **merge** entre ramas, incluyendo resolución de conflictos

### Paso 1: Preparar el Repositorio

- 1. Crea un repo en GitHub:
  - Ve a github.com/new.
  - Nombre: demo-merge.
  - No inicialices con README.





#### Set up GitHub Copilot

Use GitHub's Al pair programmer to autocomplete suggestions as you code.

Get started with GitHub Copilot

0

#### 2. Clona localmente:

git clone https://github.com/<tu-usuario>/demo-merge.git

```
bash-3.2$ git clone https://github.com/amartinezh/demo-merge.git
Cloning into 'demo-merge'...
warning: You appear to have cloned an empty repository.
bash-3.2$
```

3. cd demo-merge

## Paso 2: Crear Ramas y Generar Conflictos

1. Rama main (base):

```
echo "# Demo Merge" > README.md
git add README.md
git commit -m "Initial commit"
```

```
1 file changed, 1 insertion(+) create mode 100644 README.md bash-3.2$
```

2. git push origin main

```
bash-3.2$ git push origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 260 bytes | 260.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/amartinezh/demo-merge.git
 * [new branch] main -> main
bash-3.2$
```

3. Rama feature/login (cambios divergentes):

```
git checkout -b feature/login
echo "## Login Page" >> README.md
```

```
git commit -am "Add login section"
```

```
bash-3.2$ git checkout -b feature/login
Switched to a new branch 'feature/login'
bash-3.2$ echo "## Login Page" >> README.md
bash-3.2$ git commit -am "Add login section"
[feature/login 6dfc307] Add login section
Committer: Andres Mauricio Martinez Hincapie <andresmauriciomartinezhincapie@MacBook-Air-de-Andres.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:
    git config --global --edit

After doing this, you may fix the identity used for this commit with:
    git commit --amend --reset-author

1 file changed, 1 insertion(+)
bash-3.2$
```

#### 4. git push -u origin feature/login

```
bash-3.2$ git push -u origin feature/login
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Writing objects: 100% (3/3), 310 bytes | 310.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'feature/login' on GitHub by visiting:
remote: https://github.com/amartinezh/demo-merge/pull/new/feature/login
remote:
To https://github.com/amartinezh/demo-merge.git
  * [new branch] feature/login -> feature/login
branch 'feature/login' set up to track 'origin/feature/login'.
bash-3.2$ ■
```

#### 5. Rama feature/header (cambios conflictivos):

After doing this, you may fix the identity used for this commit with:

git config --global --edit

1 file changed, 1 insertion(+) bash-3.2\$ ■

git commit --amend --reset-author

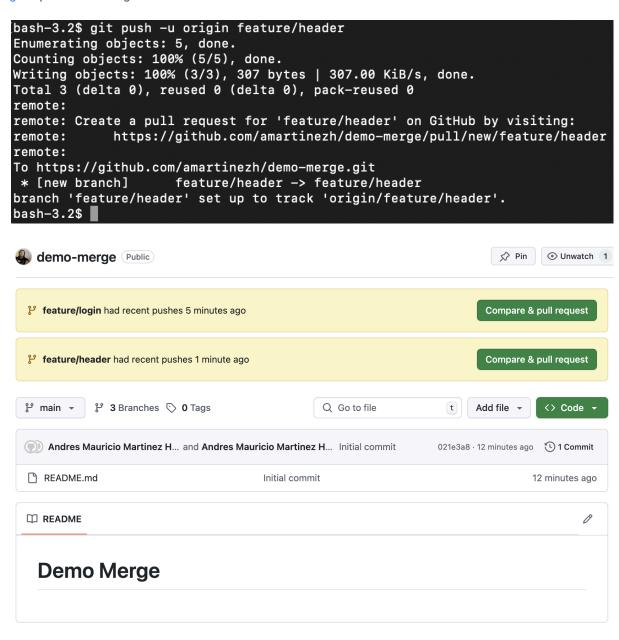
```
git checkout -b feature/header

echo "## Header" >> README.md # ¡Misma línea modificada!

git commit -am "Add header section"

bash-3.2$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
bash-3.2$ git checkout -b feature/header
Switched to a new branch 'feature/header'
bash-3.2$ echo "## Header" >> README.md # ¡Misma línea modificada!
bash-3.2$ git commit -am "Add header section"
[feature/header e95927] Add header section"
[feature/header e95927] Add header section Committer: Andres Mauricio Martinez Hincapie <andressmauriciomartinezhir
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:
```

6. git push -u origin feature/header



## Paso 3: Simular Merge Conflict en GitHub

- 1. Crea un Pull Request (PR):
  - Ve a tu repo en GitHub.

Haz clic en "Compare & pull request" para feature/header.



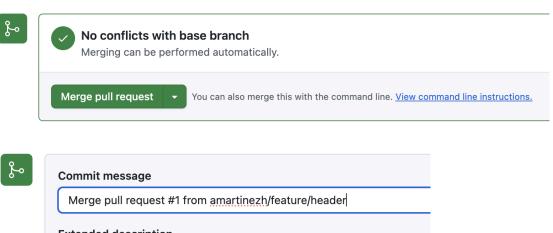
compare: feature/header ▼ ✓ Able to merge. These branches can be automatically merged.

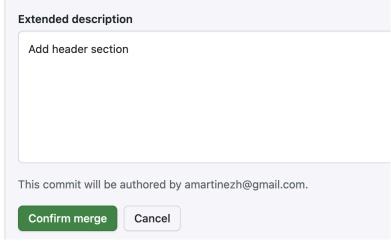
Crea el PR.

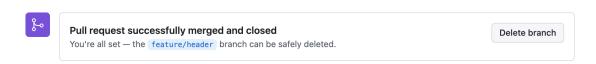


#### 2. Mergea el primer PR:

Haz clic en "Merge pull request" → "Create a merge commit".







#### 3. Crea un segundo PR conflictivo:

o Repite el proceso para feature/login.



GitHub mostrará: "This branch has conflicts that must be resolved".



# Paso 4: Resolver Conflictos (en GitHub)

1. Haz clic en "Resolve conflicts":

Create pull request



GitHub abrirá un editor con el archivo conflictivo (README.md):





### 2. Edita manualmente (ejemplo):

```
## Login Page
```

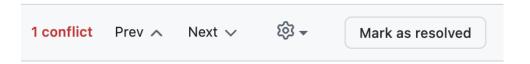
## Header

# README.md

1
2 ## Header
3 ## Login Page

#### 3. Marca como resuelto:

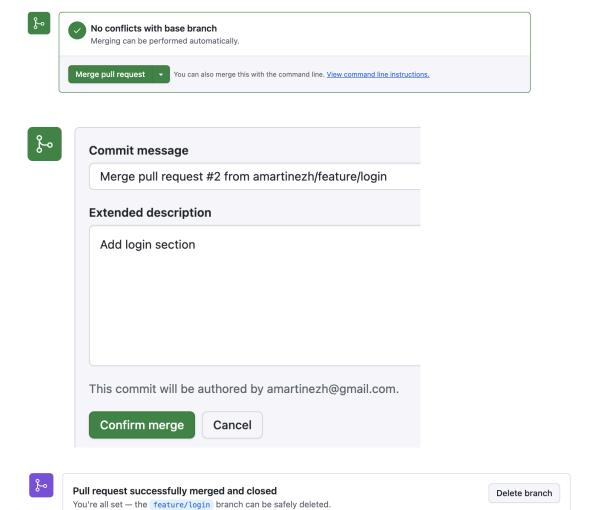
Haz clic en "Mark as resolved" → "Commit merge".





## 4. Completa el merge:

o Haz clic en "Merge pull request".





```
git pull origin main # Descarga los cambios mergeados
bash-3.2$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
bash-3.2$ git pull origin main # Descarga los cambios mergeados
remote: Enumerating objects: 11, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (5/5), 2.74 KiB | 560.00 KiB/s, done.
From https://github.com/amartinezh/demo-merge
 * branch
                               -> FETCH_HEAD
                     main
   021e3a8..dc171c7 main
                                  -> origin/main
Updating 021e3a8..dc171c7
Fast-forward
 README.md | 4 +++-
 1 file changed, 3 insertions(+), 1 deletion(-)
bash-3.2$
```

Verás el historial combinado:

```
git log --oneline --graph
```

# **Ejercicio Adicional**

- Simula un hotfix:
  - 1. Crea una rama hotfix desde main.
  - 2. Modifica README.md.
  - 3. Haz merge vía PR y compara con el flujo de features.