

# ACTIVIDAD 4

## INTRODUCTION TO GIT

**¿CÓMO TE HA AYUDADO GIT A MANTENER UN HISTORIAL CLARO Y ORGANIZADO DE TUS CAMBIOS?**

*Git nos permite rastrear cada cambio con commits detallados, usar mensajes descriptivos y revertir cambios si es necesario, manteniendo un historial limpio y comprensible*

**¿QUÉ BENEFICIOS VES EN EL USO DE RAMAS PARA DESARROLLAR NUEVAS CARACTERÍSTICAS O CORREGIR ERRORES?**

*Las ramas aislan el desarrollo, permitiendo trabajar en nuevas funciones o correcciones sin afectar la rama principal lo cual evita conflictos*

REALIZA UNA REVISIÓN FINAL DEL HISTORIAL DE COMMITS PARA ASEGURARTE DE QUE TODOS LOS CAMBIOS SE HAN REGISTRADO CORRECTAMENTE.

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
git log --oneline --graph
77302b0 (HEAD -> main) Reapply "intento de conflicto"
ec8c329 Revert "intento de conflicto"
9e329ac intento de conflicto
938dbc6 solucion

* 5a4b73b intento3
* 63fdbf4 solucion
* 973bbc5 commit en feature advanced
| 7b35664 intento3
| f519e84 solucion
| d2c58d1 solucion
| bd9b43c intento conflicto
|
3c58610 primer merge de main y feature

* 9054c79 (master, feature/login) Add main.py
* e5a586b Set up the repository base documentation
| 1400069 Set up repository base documentation

892da36 mi primer commit
```

REVISÁ EL USO DE RAMAS Y MERGES PARA VER CÓMO GIT MANEJA MÚLTIPLES LÍNEAS DE DESARROLLO.

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git log --graph --all
* commit 77302b0cef97f72011e7e56dede539e9b5e2b11f (HEAD -> main)
| Author: jhon-repo <jhon.cruz.t@uni.pe>
| Date:  Sun Apr 6 20:53:50 2025 -0500
|
|     Reapply "intento de conflicto"
|
|     This reverts commit ec8c329dfa7da4b8dac2a51bdf396f4ec49e90f3
|
* commit ec8c329dfa7da4b8dac2a51bdf396f4ec49e90f3
| Author: jhon-repo <jhon.cruz.t@uni.pe>
| Date:  Sun Apr 6 20:49:14 2025 -0500
|
|     Revert "intento de conflicto"
|
|     This reverts commit 9e329ac0b38d3fc9ac1670a269edcaaaee5c385
|
* commit 9e329ac0b38d3fc9ac1670a269edcaaaee5c385
| Author: jhon-repo <jhon.cruz.t@uni.pe>
| Date:  Sun Apr 6 20:41:29 2025 -0500
|
|     intento de conflicto
|
* commit 938dbc6153d9ae8037f311f354ed689208e6b144
| Merge: 7b35664 5a4b73b
| Author: jhon-repo <jhon.cruz.t@uni.pe>
| Date:  Sun Apr 6 20:40:29 2025 -0500
|
|     solucion
|
* commit 5a4b73b5f4ba6b4314fdf5f8cc307d8880c2b810
| Author: jhon-repo <jhon.cruz.t@uni.pe>
| Date:  Sun Apr 6 20:36:17 2025 -0500
```

# 1. MANEJO AVANZADO DE RAMAS Y RESOLUCIÓN DE CONFLICTOS

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (feature/advanced-feature)
$ git switch main
Switched to branch 'main'

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git status
On branch main
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   main.py

no changes added to commit (use "git add" and/or "git commit -a")

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git add .

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git commit -m "intento conflicto"
[main bd9b43c] intento conflicto
 1 file changed, 1 insertion(+), 1 deletion(-)

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git merge feature/advanced-feature
Auto-merging main.py
CONFLICT (content): Merge conflict in main.py
Automatic merge failed; fix conflicts and then commit the result.
```

## CREACION DE RAMAS Y DE CONFLICTO

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git add .

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git commit -m "intento de conflicto"
[main 9e329ac] intento de conflicto
 1 file changed, 1 insertion(+), 1 deletion(-)

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git merge feature/advanced-feature
Already up to date.

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$
```

## SOLUCION DE CONFLICTO Y MERGE

## 2. EXPLORACIÓN Y MANIPULACIÓN DEL HISTORIAL DE COMMITS

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git log -p
commit 9e329ac0b38d3fc9ac1670a269edcaaaee5c385 (HEAD -> main)
Author: jhon-repo <jhon.cruz.t@uni.pe>
Date: Sun Apr 6 20:41:29 2025 -0500

    intento de conflicto

diff --git a/main.py b/main.py
index e27aa0d..b173137 100644
--- a/main.py
+++ b/main.py
@@ -1,5 +1,5 @@
 
-print("Hola mundo")
+print("hola mundo")

    print("Hola mundo")
    def greet():

commit 938dbc6153d9ae8037f311f354ed689208e6b144
Merge: 7b35664 5a4b73b
Author: jhon-repo <jhon.cruz.t@uni.pe>
Date: Sun Apr 6 20:40:29 2025 -0500

    solucion

commit 5a4b73b5f4ba6b4314fdf5f8cc307d8880c2b810
Author: jhon-repo <jhon.cruz.t@uni.pe>
Date: Sun Apr 6 20:36:17 2025 -0500

    intento3

diff --git a/main.py b/main.py
index 5d97cce..4236a4a 100644
--- a/main.py
+++ b/main.py
@@ -1,5 +1,4 @@
    print("Hola mundo")
-
    def greet():
        print("Hello, world!")

commit 7b356643717e8525d468d56976c6f4803d9d802c
Author: jhon-repo <jhon.cruz.t@uni.pe>
Date: Sun Apr 6 20:35:52 2025 -0500

    intento3

diff --git a/main.py b/main.py
```

HISTORIAL DETALLADO EN MAIN

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git revert HEAD --no-edit
[main 77302b0] Reapply "intento de conflicto"
Date: Sun Apr 6 20:53:50 2025 -0500
1 file changed, 1 insertion(+), 1 deletion(-)
```

### USO DE REVERT CORRECTO

Successfully rebased and updated refs/heads/main.

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git log --graph --oneline --all
* 77302b0 (HEAD -> main) Reapply "intento de conflicto"
* ec8c329 Revert "intento de conflicto"
* 9e329ac intento de conflicto
* 938dbc6 solucion
| \
| * 5a4b73b intento3
| * 63fdbf4 solucion
| * 973bbc5 commit en feature advanced
| * 7b35664 intento3
| * f519e84 solucion
| * d2c58d1 solucion
| * bd9b43c intento conflicto
|/
| * 3c58610 primer merge de main y feature
|/
| * 9054c79 (master, feature/login) Add main.py
| * e5a586b Set up the repository base documentation
| * 1400069 Set up repository base documentation
|/
| * 892da36 mi primer commit

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ |
```

GRAFICA DETALLADA DE CAMBIOS

# 3. CREACIÓN Y GESTIÓN DE RAMAS DESDE COMMITS ESPECÍFICOS

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git log --oneline
77302b0 (HEAD -> main) Reapply "intento de conflicto"
ec8c329 Revert "intento de conflicto"
9e329ac intento de conflicto
938dbc6 solucion
5a4b73b intento3
7b35664 intento3
f519e84 solucion
d2c58d1 solucion
63fdbf4 solucion
bd9b43c intento conflicto
973bbc5 commit en feature advanced
3c58610 primer merge de main y feature
9054c79 (master, feature/login) Add main.py
e5a586b Set up the repository base documentation
1400069 Set up repository base documentation
892da36 mi primer commit
```

  

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git checkout 3c58610
Note: switching to '3c58610'.
```

You are in 'detached HEAD' state. You can look around, make experimental changes and commit them, and you can discard any commits you make in this state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may do so (now or later) by using -c with the switch command. Example:

```
git switch -c <new-branch-name>
```

Or undo this operation with:

```
git switch -
```

Turn off this advice by setting config variable advice.detachedHead to false

HEAD is now at 3c58610 primer merge de main y feature

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS ((3c58610...))
$ git branch bigfixed/rollback-feature
```

HISTORIAL Y CREACION DE LA RAMA  
EN UN COMMIT ESPECIFICO

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git log --graph --oneline
* e2c3aa9 (HEAD -> main) solucion merge
| \
| * 9484abe (bigfixed/rollback-feature) Fix bug in rollback feature
| * 77302b0 Reapply "intento de conflicto"
| * ec8c329 Revert "intento de conflicto"
| * 9e329ac intento de conflicto
|   938dbc6 solucion
| \
| * | 5a4b73b intento3
| * | 63fdbf4 solucion
| * | 973bbc5 commit en feature advanced
| / \
| * 7b35664 intento3
| * f519e84 solucion
| * d2c58d1 solucion
| * bd9b43c intento conflicto
| /
| * 3c58610 primer merge de main y feature
| \
| * 9054c79 (master, feature/login) Add main.py
| * e5a586b Set up the repository base documentation
| * 1400069 Set up repository base documentation
| /
| * 892da36 mi primer commit
```

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git branch -d bigfixed/rollback-feature
Deleted branch bigfixed/rollback-feature (was 9484abe).
```

MUESTRA DEL MERGE CON MAIN Y ELIMINACION  
DE LA RAMA

# 4. MANIPULACIÓN Y RESTAURACIÓN DE COMMITS CON GIT RESET Y GIT RESTORE

```
huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git add .

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git commit -m "reset"
[main 6749edd] reset
 1 file changed, 1 insertion(+), 12 deletions(-)

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git reset --hard HEAD~1
HEAD is now at e2c3aa9 solucion merge

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ echo "Another line in README" > Readme.md

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git status
On branch main
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   Readme.md

no changes added to commit (use "git add" and/or "git commit -a")

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ git restore Readme.md

huama@LAPTOP-1S9KBL6U MINGW64 ~/Documents/DS (main)
$ |
```