

2022-2023 



INITIATION GIT & GITHUB



LÉO DUTERTRE-LADURÉE

Intérêt ?



1

SAUVEGARDE SÉCURISÉE DES SCRIPTS

Les scripts sont enregistrés dans un dépôt distant (Github)

2

FACILITE LE TRAVAIL EN ÉQUIPE

Toutes les étapes de développement d'un projet sont stockées dans un historique

3

OUTIL DE VERSIONING RECONNU

Une communauté de 94 millions de développeurs dont 20 millions de nouvelles recrues en 2022



Sommaire



1

PREMIERS PAS

Présentation Git & Github
Intallation de Git
Création d'un compte Github

2

CREATION D'UN PROJET

Idee Générale
Dépôt local (Git)
Dépôt distant (Github)

3

DÉVELOPPEMENT D'UN PROJET

Gestion des branches de développement
Ajout des modifications au projet
Gestion des conflits



1

PREMIER PAS

- *PRÉSENTATION GIT & GITHUB*
- *INSTALLATION DE GIT*
- *CRÉATION D'UN COMPTE GITHUB*

Présentation



1

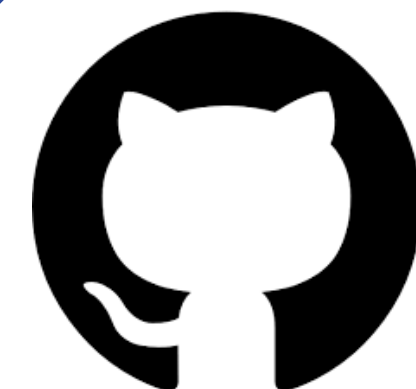
GIT

- *Un gestionnaire de version*
- *Utilisé pour créer un dépôt local*
- *Un dépôt local est un entrepôt virtuel permettant le stockage des scripts d'un projet sur sa machine*

2

GITHUB

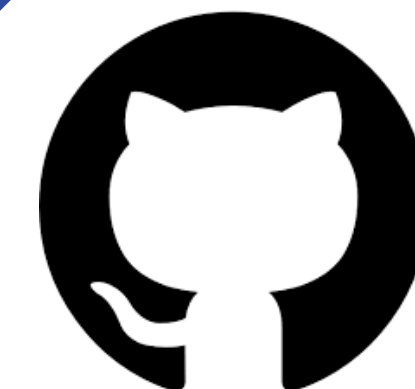
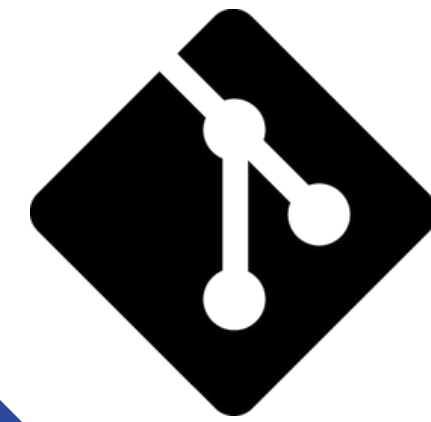
- *Un service en ligne*
- *Utilisé pour héberger un projet*
- *Il s'agit donc d'un dépôt distant qui correspond à une version dématérialisée du dépôt local*



Installation Git

LIEN VERS L'INSTALLATION DE GIT

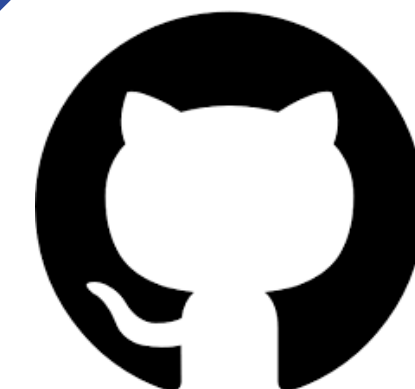
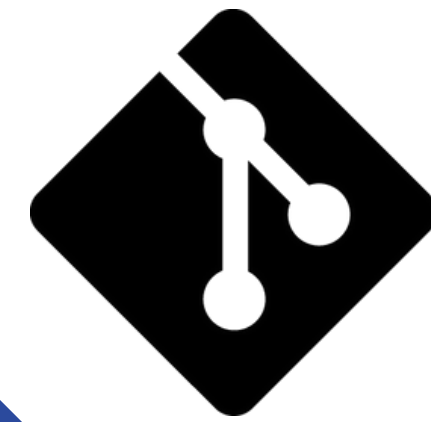
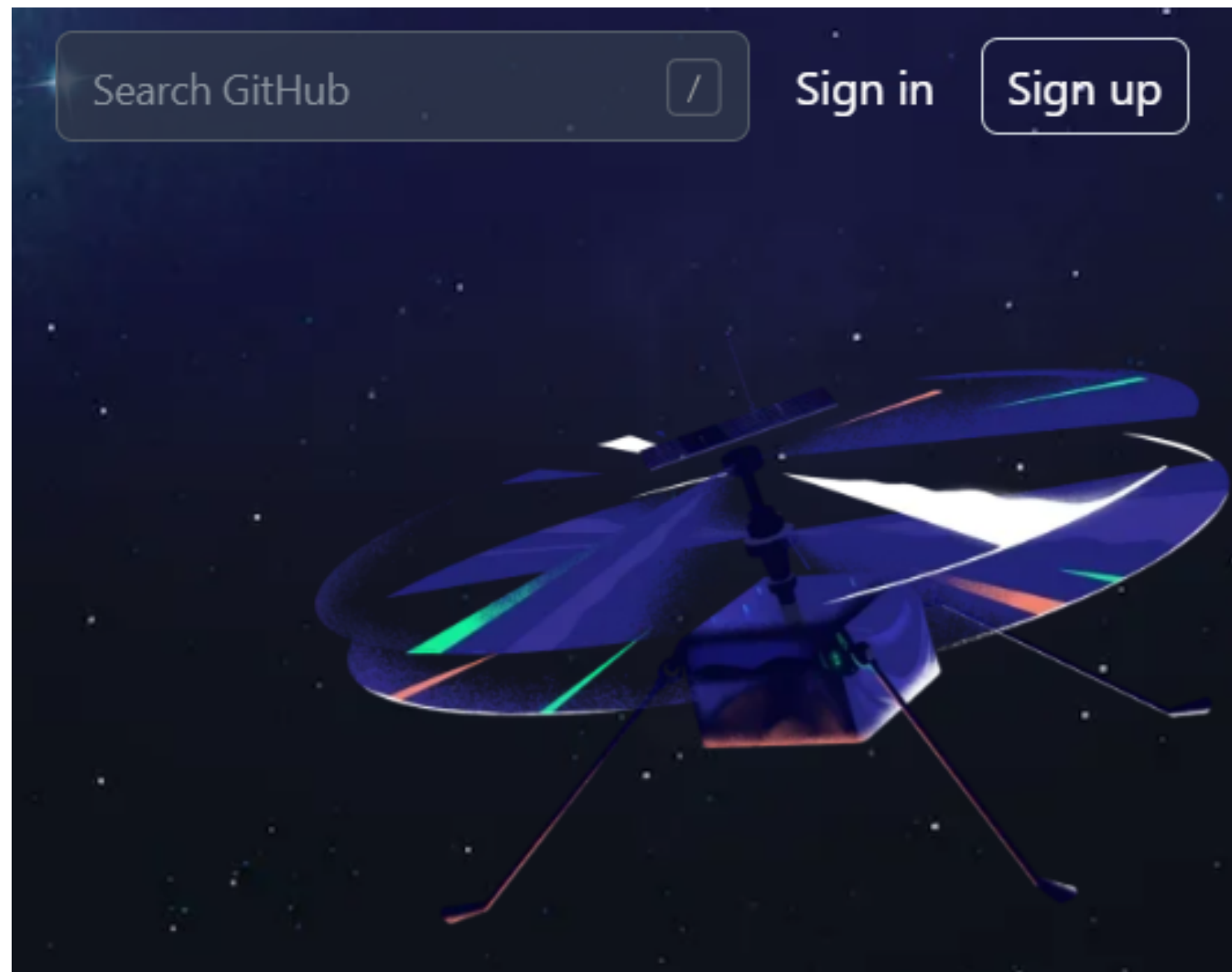
<https://git-scm.com/downloads>



Compte Github

LIEN VERS GITHUB

<https://github.com/>



2

CREATION D'UN PROJET

- *IDÉE GÉNÉRALE*
- *DÉPÔT LOCAL (GIT)*
- *DÉPÔT DISTANT (GITHUB)*

Idée Générale

Dépôt Local

Working Directory

Staging Area

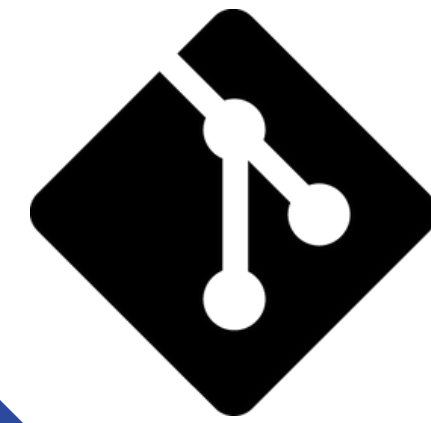
Repository

Dépôt Distant

Github



Dépôt Local (Git)



```
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ cd Documents/  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents  
$ mkdir Projet  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents  
$ cd Projet  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents/Projet  
$ git init  
Initialized empty Git repository in C:/Users/duter/Documents/Projet/.git/  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents/Projet (master)  
$ git status  
On branch master  
  
No commits yet  
  
nothing to commit (create/copy files and use "git add" to track)
```



Dépôt Local (Git)



```
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ git config --global user.name "User Name"  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ git config --global user.email "user.name@gmail.com"  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ git config --global color.diff auto  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ git config --global color.status auto  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ git config --global color.branch auto  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ git config --global core.editor auto  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ git config --global merge.tool vimdiff  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ git config -l
```





Dépôt Distant (Github)



Start a new repository

A repository contains all of your project's files, revision history, and collaborator discussion.

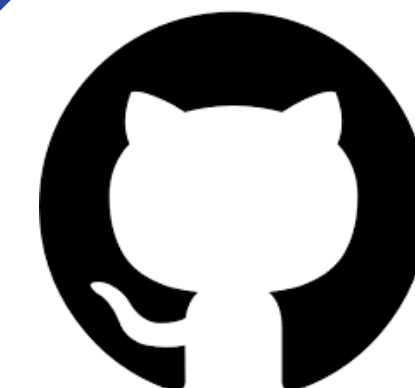
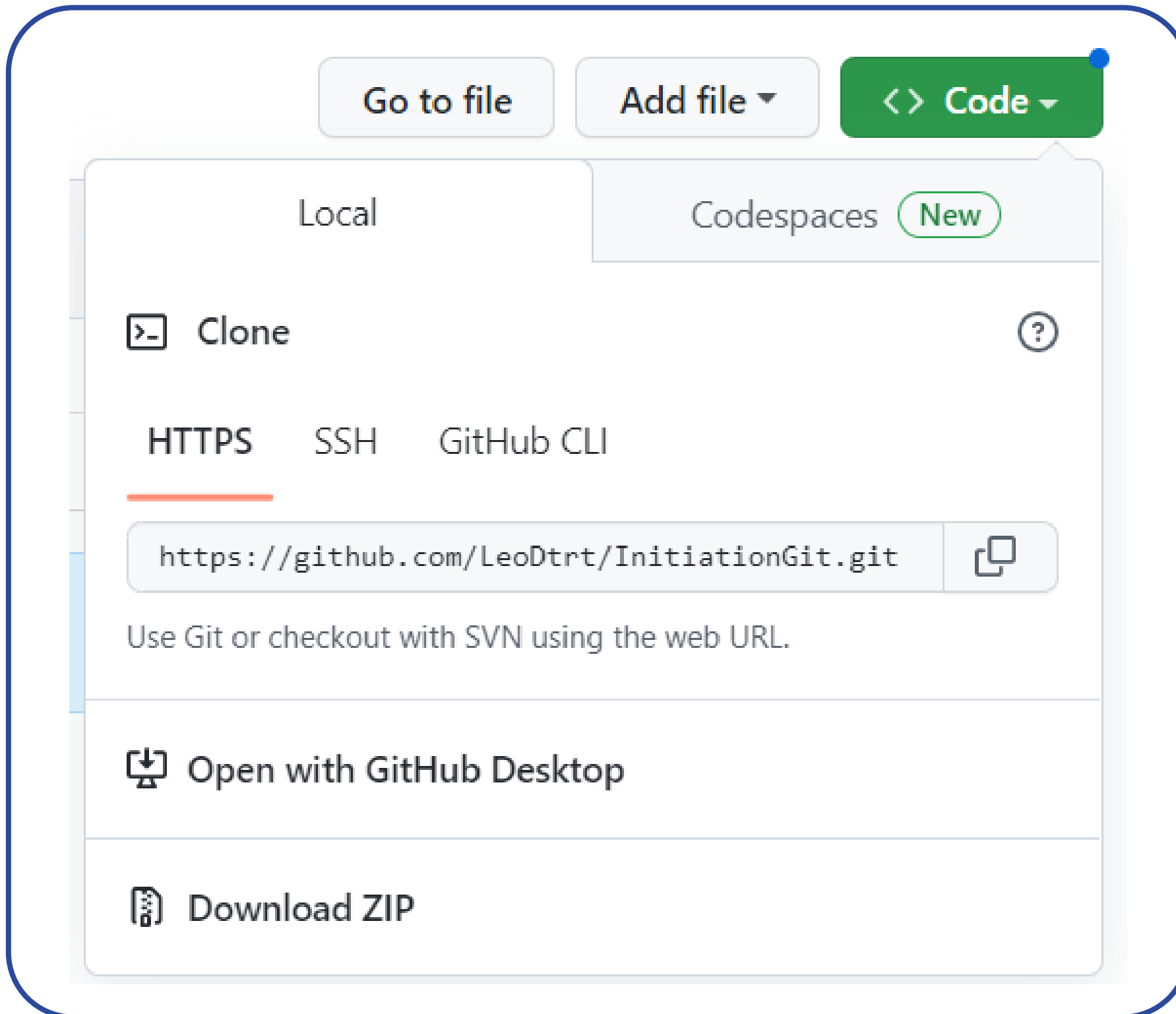
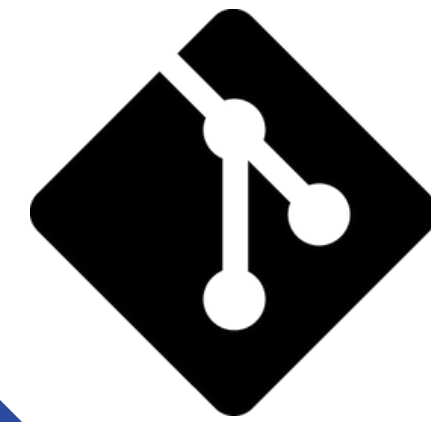
LeoDtrt /

- ☐  **Public**
Anyone on the internet can see this repository
- ☒  **Private**
You choose who can see and commit to this repository

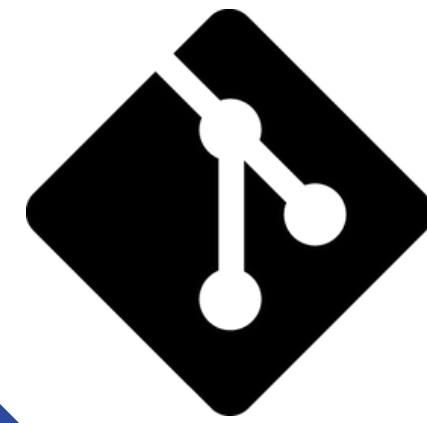
Create a new repository



Dépôt Distant (Github)



Dépôt Distant (Github)



```
duter@LAPTOP-NEIQ7I0H MINGW32 ~  
$ cd Documents/  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents  
$ git clone https://github.com/LeoDtrt/InitiationGit.git  
Cloning into 'InitiationGit'...  
remote: Enumerating objects: 15, done.  
remote: Counting objects: 100% (15/15), done.  
remote: Compressing objects: 100% (12/12), done.  
remote: Total 15 (delta 2), reused 14 (delta 2), pack-reused 0  
Receiving objects: 100% (15/15), 573.62 KiB | 4.52 MiB/s, done.  
Resolving deltas: 100% (2/2), done.  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents  
$ cd InitiationGit/  
  
duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents/InitiationGit (main)  
$ git remote -v  
origin https://github.com/LeoDtrt/InitiationGit.git (fetch)  
origin https://github.com/LeoDtrt/InitiationGit.git (push)
```



3

DÉVELOPPEMENT D'UN PROJET

- *GESTION DES BRANCHES DE DÉVELOPPEMENT*
- *AJOUT DES MODIFICATIONS AU PROJET*
- *GESTION DES CONFLITS*

Gestion des branches



Afficher toutes les branches d'un projet :

- ***git branch -a***

Créer la branche "NameBranch" :

- ***git branch NameBranch***

Se placer sur la branche "NameBranch" :

- ***git checkout NameBranch***

Supprimer la branche "NameBranch" :

- ***git branch -d NameBranch***

Forcer la suppression de la branche "NameBranch" :

- ***git branch -D NameBranch***



Ajout des modifications



Afficher toutes les modifications réalisées :

- ***git status***

Ajouter les modifications du fichier "file.txt" :

- ***git add file.txt***

Ajouter toutes les modifications en cours :

- ***git add --all***

Réaliser un commit des modifications :

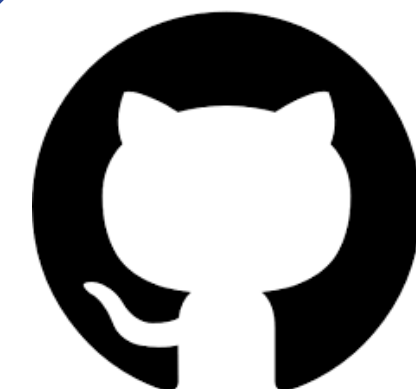
- ***git commit -m "Nom du commit"***

Supprimer le dernier commit si besoin :

- ***git reset HEAD~1***

Pousser le commit sur le dépôt distant (Github)

- ***git push origin NameBranch***



Merger une branche via Git



Afficher toutes les branches :

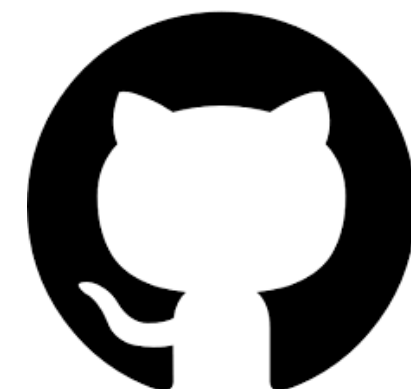
- ***git branch -a***

Se placer sur la branche qui va recevoir le merge :

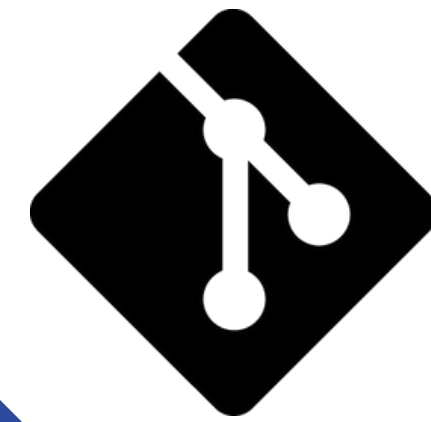
- ***git checkout main***

**Merger la branche NameBranche sur la branche
main :**

- ***git merge NameBranche main***



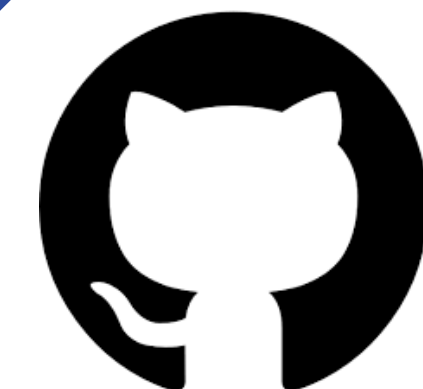
Merger une branche via Git



```
duter@LAPTOP-NEIQ7IOH MINGW32 ~/Documents/InitiationGit (leoRennes1)
$ git branch -a
* leoRennes1
  main
  remotes/origin/HEAD -> origin/main
  remotes/origin/leoRennes1
  remotes/origin/main

duter@LAPTOP-NEIQ7IOH MINGW32 ~/Documents/InitiationGit (leoRennes1)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

duter@LAPTOP-NEIQ7IOH MINGW32 ~/Documents/InitiationGit (main)
$ git merge leoRennes1 main
Updating faad418..25d8080
Fast-forward
 Script/TemplateRmd.Rmd | 7 ++++++-
 1 file changed, 6 insertions(+), 1 deletion(-)
```



Merger une branche via Github

LeoDtrt / InitiationGit Private

Watch 1 Fork 0 Starred 1

<> Code Issues Pull requests Actions Projects Security Insights

Comparing changes

Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#).

base: main

←

compare: leoRennes1

✓ Able to merge. These branches can be automatically merged.

Discuss and review the changes in this comparison with others. [Learn about pull requests](#) [Create pull request](#)

4 commits

1 file changed

1 contributor

Commits on Jan 8, 2023

creation branch leoRennes1
Leo Dutertre committed 1 hour ago

debut paragraph
Leo Dutertre committed 1 hour ago

remise à nivea
Leo Dutertre committed 1 hour ago

f55d45f

<>

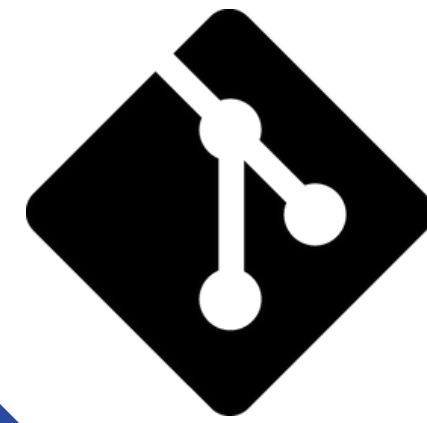
aa49dc0

<>

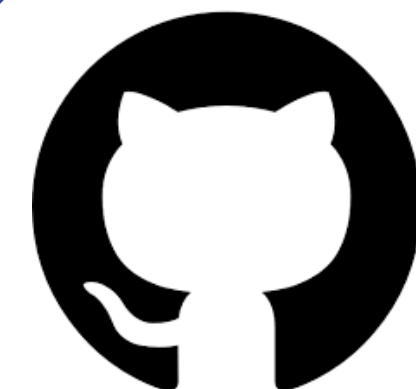
58893a3

<>

Conflit du "pull"



```
duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents/InitiationGit (leoRennes1)
$ git pull origin leoRennes1
From https://github.com/LeoDtrt/InitiationGit
* branch          leoRennes1 -> FETCH_HEAD
error: Your local changes to the following files would be overwritten by merge:
      Script/TemplateRmd.Rmd
Please commit your changes or stash them before you merge.
Aborting
Updating aa49dc0..58893a3
```



Résolution du "pull"



Ajouter toutes vos modifications puis refaire le pull :

- ***git add --all***
- ***git commit -m "Nom du commit"***
- ***git push origin NameBranch***
- ***git pull origin NameBranch***

Couper vos modifications, refaire le git pull, puis coller toutes vos modifications :

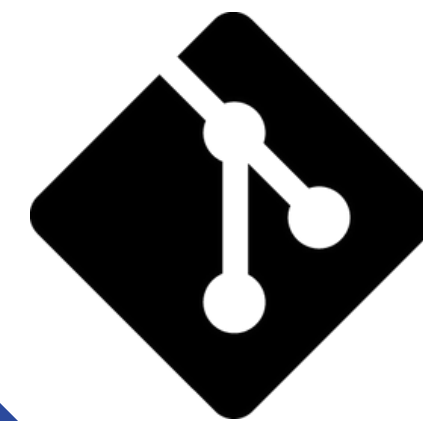
- ***git stash***
- ***git pull origin NameBranch***
- ***git stash apply***

Supprimer vos modifications :

- ***git checkout . (supprime toutes les modifications)***
- ***git checkout fileName***



Conflit du "merge"



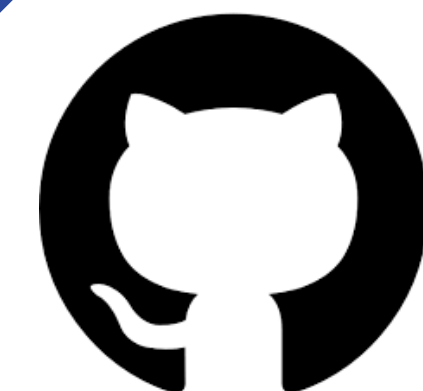
```
duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents/InitiationGit (leoRennes1)
$ git stash
Saved working directory and index state WIP on leoRennes1: 58893a3 remise à nivea

duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents/InitiationGit (leoRennes1)
$ git pull origin leoRennes1
From https://github.com/LeoDtrt/InitiationGit
 * branch                leoRennes1 -> FETCH_HEAD
Updating 58893a3..25d8080
Fast-forward
 Script/TemplateRmd.Rmd | 4 +++-
 1 file changed, 3 insertions(+), 1 deletion(-)

duter@LAPTOP-NEIQ7I0H MINGW32 ~/Documents/InitiationGit (leoRennes1)
$ git stash apply
Auto-merging Script/TemplateRmd.Rmd
CONFLICT (content): Merge conflict in Script/TemplateRmd.Rmd
On branch leoRennes1
Your branch is up to date with 'origin/leoRennes1'.

Unmerged paths:
  (use "git restore --staged <file>..." to unstage)
  (use "git add <file>..." to mark resolution)
    both modified:   Script/TemplateRmd.Rmd

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



Résolution du "merge"



```
```{r, message=F, warning=F, include=F}
<<<<<< Updated upstream
2+2
=====
3+3
>>>>>> Stashed changes
```
```

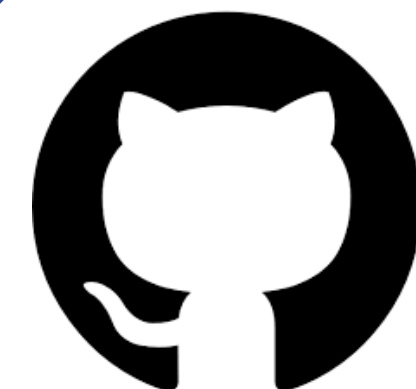
Garder toutes nos modifications :

- ***git checkout --ours .***

Garder toutes leurs modifications :

- ***git checkout --theirs .***

Il est également possible d'effectuer une modification à la main directement dans le(s) fichier(s) en conflit.



Mise à jour du main via une branch de Dev

