



# Git et GitHub

Orlane Duport

# Introduction

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## Problématique:

- Les projets informatiques sont parfois complexes.
- La gestion de l'historique de fichiers peut parfois être compliqué.
- La gestion des différentes versions n'est pas optimale.

## Utilité de Git et GitHub:

- Permet de suivre les modifications d'un code.
- Permet d'organiser les projets de développement.
- Permet le travail seul ou en équipe (open source possible).
- Permet de conserver le projet en dehors de son ordinateur.

# Introduction

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## Objectifs de la séance:

- Installer et configurer Git et GitHub.
- Utiliser les commandes de bases de Git.
- Créer un premier projet.

# Git: gestionnaire de versions

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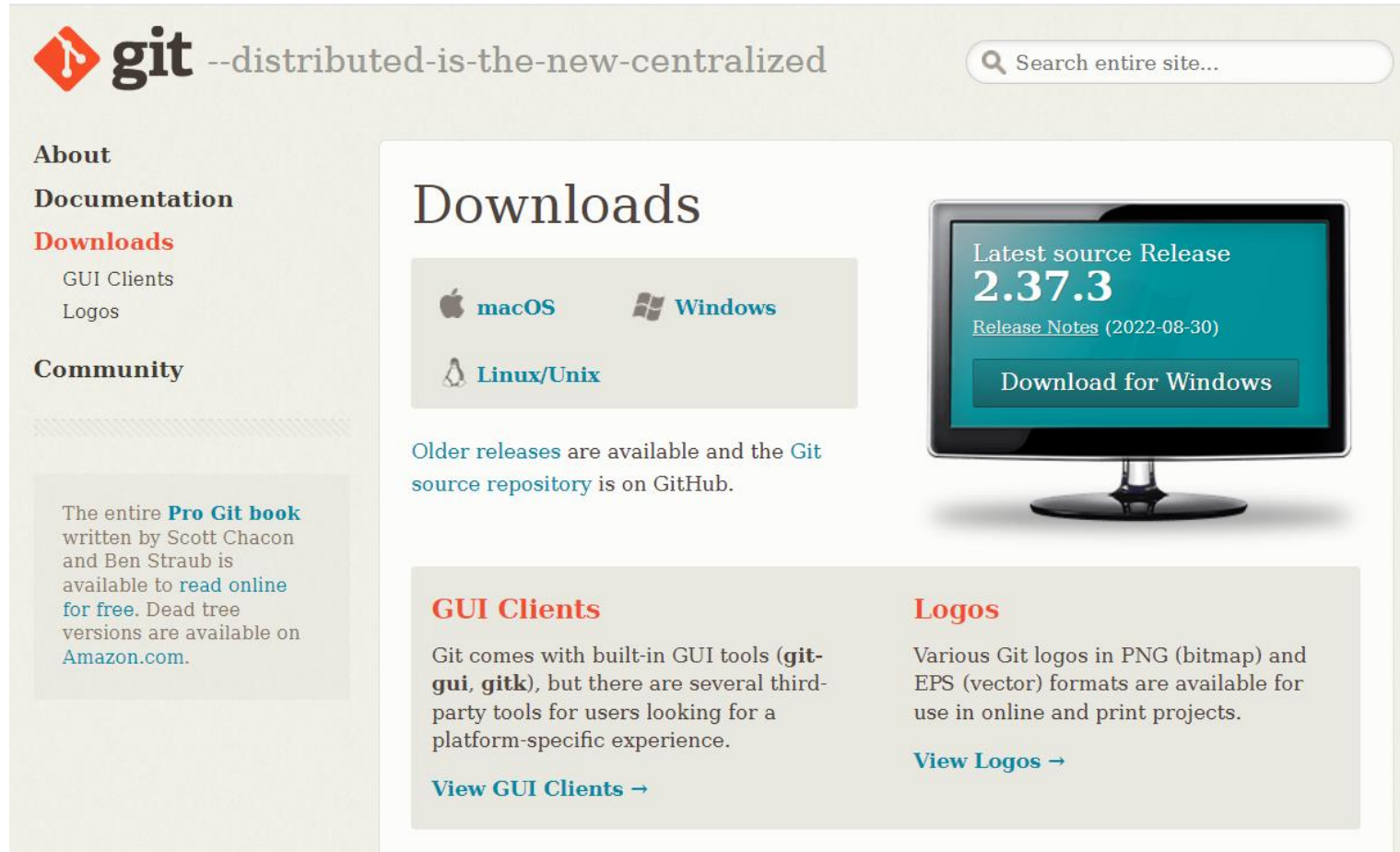
- Programme qui permet aux développeurs de conserver un historique des modifications et des versions de tous les fichiers.

## Permet:

- de garder en mémoire chaque modification de chaque fichier, pourquoi elle à eu lieu et par qui.
- de revenir à une version antérieure de son code si nécessaire.
- de suivre l'évolution de son code étape par étape.
- de travailler à plusieurs sans risquer de supprimer les modifications des autres.

# Installation de Git

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



The screenshot shows the Git website's Downloads page. At the top, the Git logo is followed by the tagline "--distributed-is-the-new-centralized". A search bar is located in the top right corner. On the left sidebar, there are links for "About", "Documentation", "Downloads" (highlighted in red), "GUI Clients", "Logos", and "Community". Below these links, a text box mentions the "Pro Git book" by Scott Chacon and Ben Straub, available for free on Amazon.com. The main content area is titled "Downloads" and features a large monitor displaying the "Latest source Release 2.37.3" with a "Download for Windows" button. Below the monitor, it states that older releases are available on GitHub. To the left of the monitor, there are links for "macOS", "Windows", and "Linux/Unix". At the bottom, there are two sections: "GUI Clients" with a link to "View GUI Clients →" and "Logos" with a link to "View Logos →".

**git** --distributed-is-the-new-centralized

Search entire site...

**About**  
**Documentation**  
**Downloads**  
GUI Clients  
Logos  
**Community**

The entire **Pro Git book** written by Scott Chacon and Ben Straub is available to [read online for free](#). Dead tree versions are available on [Amazon.com](#).

## Downloads

macOS Windows Linux/Unix

Latest source Release  
**2.37.3**  
[Release Notes](#) (2022-08-30)  
[Download for Windows](#)

Older releases are available and the Git source repository is on GitHub.

### GUI Clients

Git comes with built-in GUI tools (**git-gui**, **gitk**), but there are several third-party tools for users looking for a platform-specific experience.

[View GUI Clients →](#)

### Logos

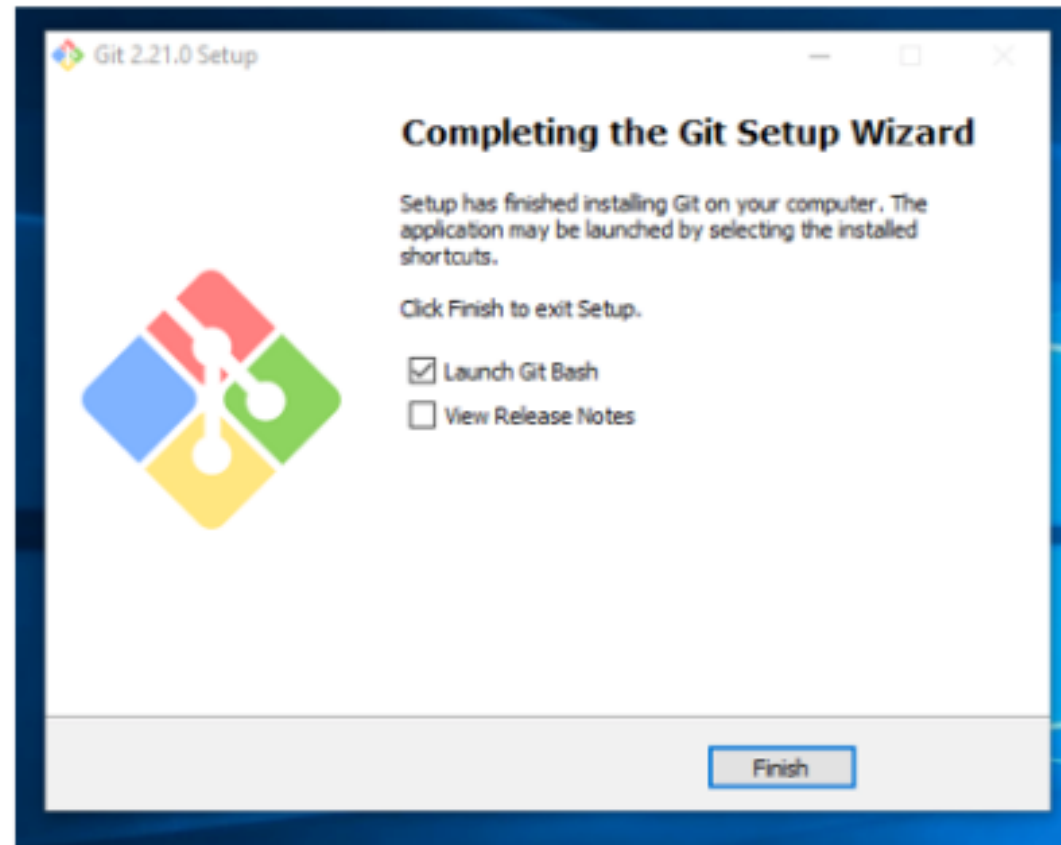
Various Git logos in PNG (bitmap) and EPS (vector) formats are available for use in online and print projects.

[View Logos →](#)

# Installation de Git

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

OS Windows:



# Initialisation Git

```
orlan@DESKTOP-R31OILA MINGW64 ~  
$ git config --global user.name "Orlane Duport"  
  
orlan@DESKTOP-R31OILA MINGW64 ~  
$ git config --global user.email orlane.duport@univ-rennes1.fr  
  
orlan@DESKTOP-R31OILA MINGW64 ~  
$ git config --global color.diff auto  
  
orlan@DESKTOP-R31OILA MINGW64 ~  
$ git config --global color.status auto  
  
orlan@DESKTOP-R31OILA MINGW64 ~  
$ git config --global color.branch auto  
  
orlan@DESKTOP-R31OILA MINGW64 ~  
$ git config --global core.editor vim  
  
orlan@DESKTOP-R31OILA MINGW64 ~  
$ git config --global merge.tool vimdiff  
  
orlan@DESKTOP-R31OILA MINGW64 ~  
$ git config --list
```

Configuration pour  
tous les projets git

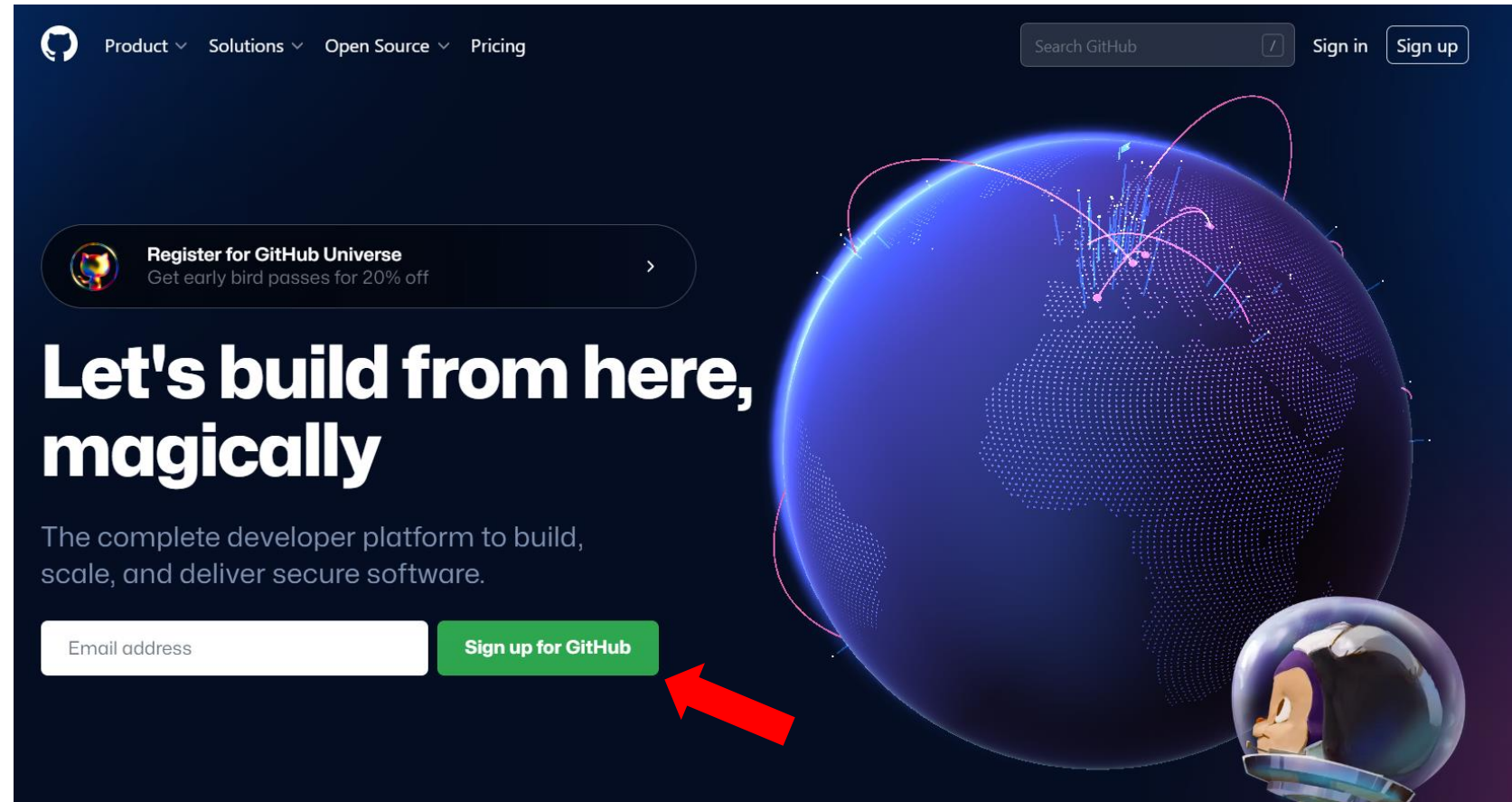
```
orlan@DESKTOP-R31OILA MINGW64 ~/Dropbox/Cours à enseigner/2022-2023/C-C++ Oscar  
$ cd TP1  
  
orlan@DESKTOP-R31OILA MINGW64 ~/Dropbox/Cours à enseigner/2022-2023/C-C++ Oscar/TP1  
$ git init  
Initialized empty Git repository in C:/Users/orlan/Dropbox/Cours à enseigner/2022-2023/C-C++ Oscar/TP1/  
.git/
```

Création d'un  
dépôt local git

# Création compte GitHub

- Service en ligne qui héberge un dépôt (distant).

<https://github.com/>

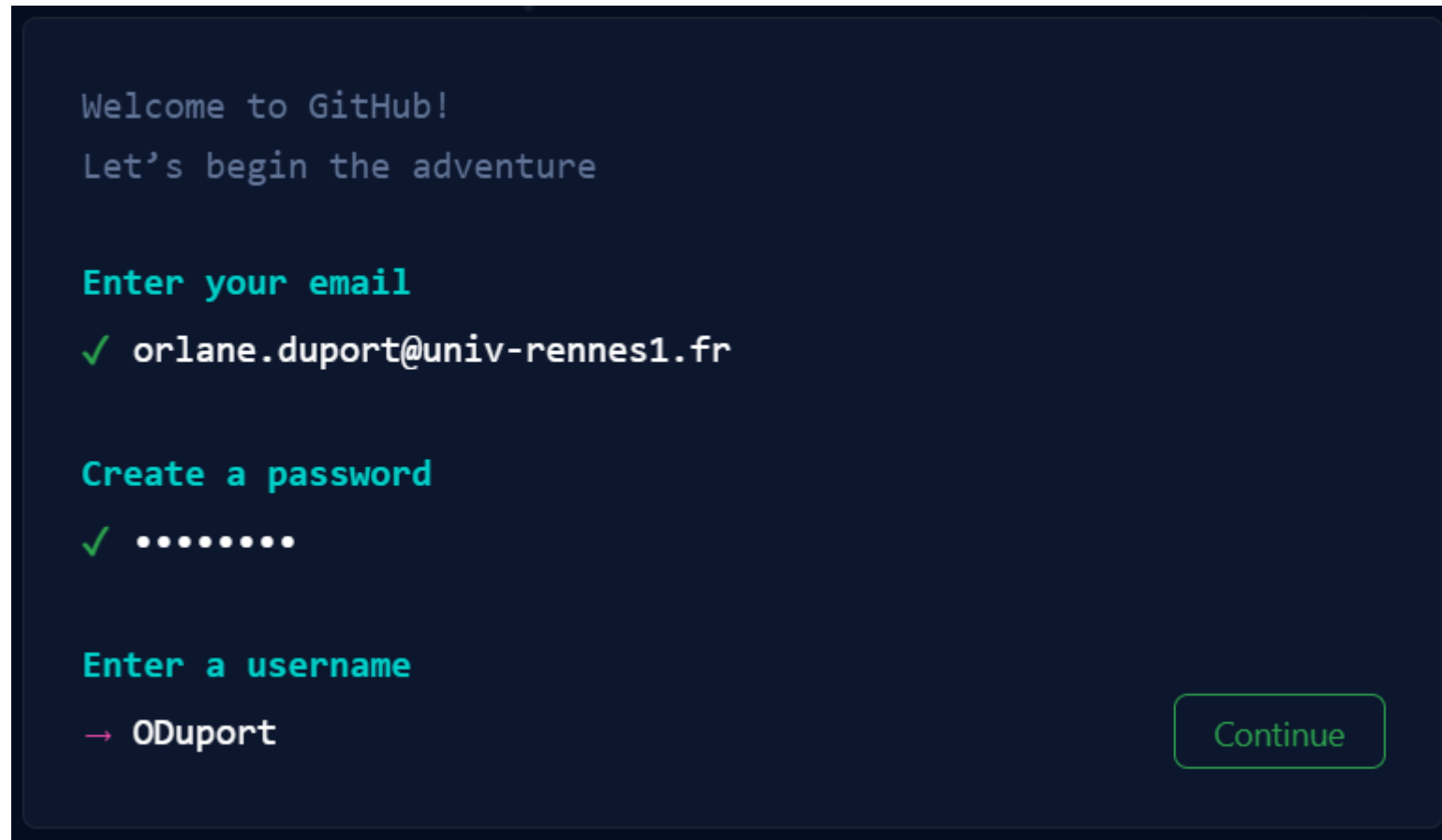




# Création compte GitHub

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<https://github.com/>



>Welcome to GitHub!  
Let's begin the adventure

**Enter your email**  
✓ orlane.duport@univ-rennes1.fr

**Create a password**  
✓ ••••••••

**Enter a username**  
→ ODuport

Continue

# Création compte GitHub

The screenshot shows a GitHub profile for a user named 'Orlane'. The profile includes a custom avatar, a bio, and a list of repositories. The 'Popular repositories' section shows three repositories: 'Projet\_CAO' (PostScript, 1 star, 1 fork), 'Heart\_model' (C++), and 'Preterm\_model' (C++). The 'Contributions' section shows a calendar grid for the last year, indicating 0 contributions. The profile also shows 1 follower and 1 following.

Overview Repositories 3 Projects Packages Stars

Popular repositories

Customize your pins

Projet\_CAO Public

PostScript ☆ 1 🍴 1

Heart\_model Public

C++

Preterm\_model Public

C++

Orlane

Edit profile

🔗 1 follower · 1 following

Achievements

0 contributions in the last year

Contribution settings

Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep

Mon

Wed

Fri

Learn how we count contributions

Less More

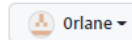
# Création dépôt distant

## Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner \*

Repository name \*



/

Great repository names are short and memorable. Need inspiration? How about [upgraded-lamp](#)?

Description (optional)



Public

Anyone on the internet can see this repository. You choose who can commit.



Private

You choose who can see and commit to this repository.

### Initialize this repository with:

Skip this step if you're importing an existing repository.

☐ Add a README file

This is where you can write a long description for your project. [Learn more.](#)

### Add .gitignore

Choose which files not to track from a list of templates. [Learn more.](#)

.gitignore template: None

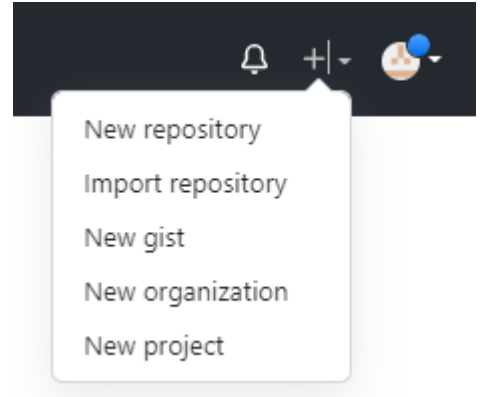
### Choose a license

A license tells others what they can and can't do with your code. [Learn more.](#)

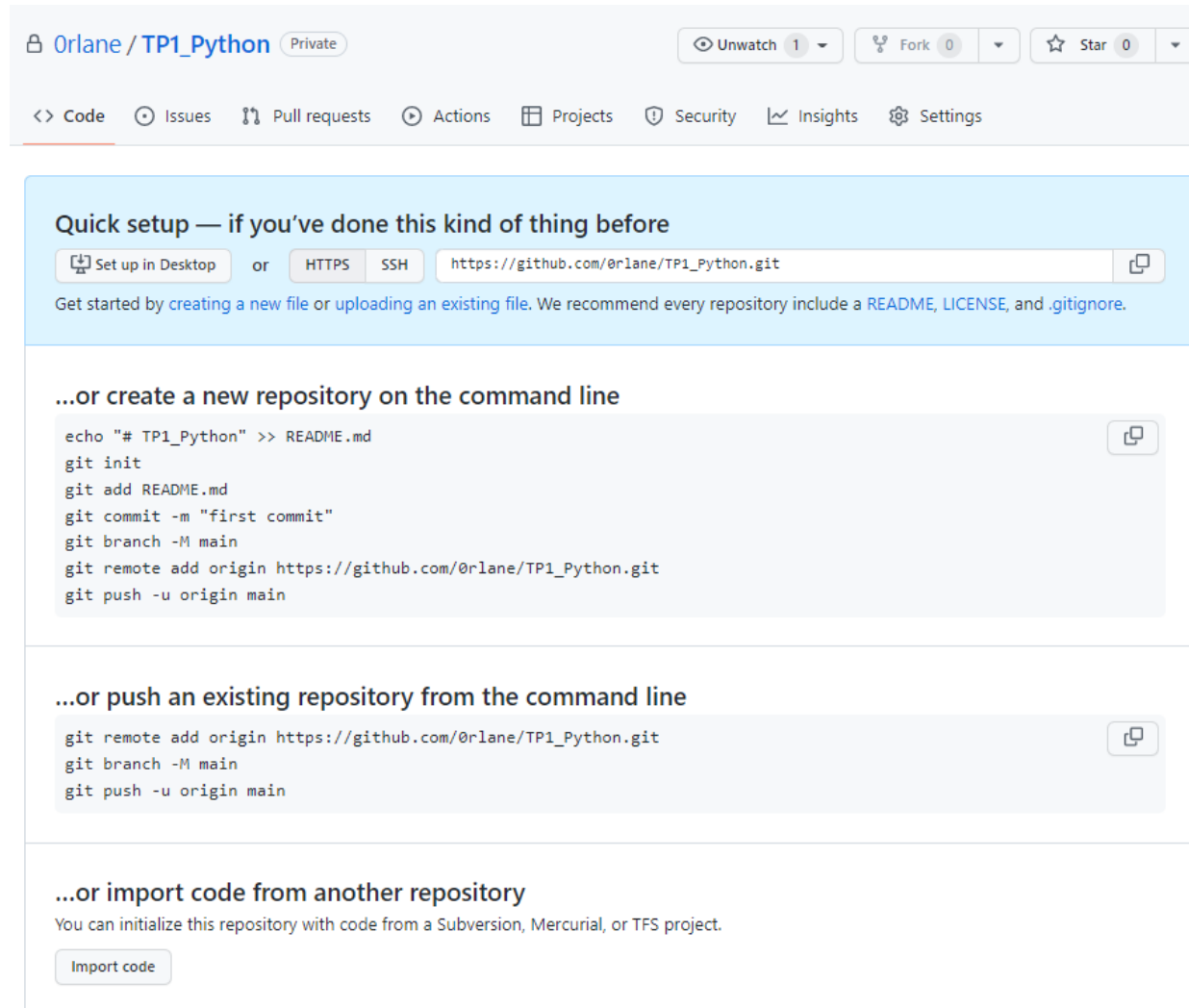
License: None

You are creating a private repository in your personal account.

Create repository



# Création dépôt distant



The screenshot shows the GitHub interface for creating a new repository. At the top, the repository name 'Orlane / TP1\_Python' is displayed with a 'Private' label. To the right are buttons for 'Unwatch' (1), 'Fork' (0), and 'Star' (0). Below this is a navigation bar with links for 'Code', 'Issues', 'Pull requests', 'Actions', 'Projects', 'Security', 'Insights', and 'Settings'. The main content area is divided into three sections: 1. 'Quick setup — if you've done this kind of thing before' which includes a 'Set up in Desktop' button, an 'or' separator, and buttons for 'HTTPS' and 'SSH'. A text input field contains the URL 'https://github.com/orlane/TP1\_Python.git'. Below this is a note: 'Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).' 2. '...or create a new repository on the command line' which contains a code block with the following commands: 

```
echo "# TP1_Python" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/orlane/TP1_Python.git
git push -u origin main
```

 3. '...or push an existing repository from the command line' which contains a code block with the following commands: 

```
git remote add origin https://github.com/orlane/TP1_Python.git
git branch -M main
git push -u origin main
```

 At the bottom, there is a section '...or import code from another repository' with the text 'You can initialize this repository with code from a Subversion, Mercurial, or TFS project.' and an 'Import code' button.

Orlane / TP1\_Python Private

Unwatch 1 Fork 0 Star 0

<> Code Issues Pull requests Actions Projects Security Insights Settings

**Quick setup — if you've done this kind of thing before**

Set up in Desktop or HTTPS SSH

Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).

**...or create a new repository on the command line**

```
echo "# TP1_Python" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/orlane/TP1_Python.git
git push -u origin main
```

**...or push an existing repository from the command line**

```
git remote add origin https://github.com/orlane/TP1_Python.git
git branch -M main
git push -u origin main
```

**...or import code from another repository**

You can initialize this repository with code from a Subversion, Mercurial, or TFS project.

Import code

# Dépôt local → dépôt distant

---

- Créer un fichier « test.txt » dans le dépôt local:

```
orlan@DESKTOP-R310ILA MINGW64 ~/Dropbox/Cours à enseigner/2022-2023/C-C++ Oscar/TP1 (main)  
$ touch test.txt
```

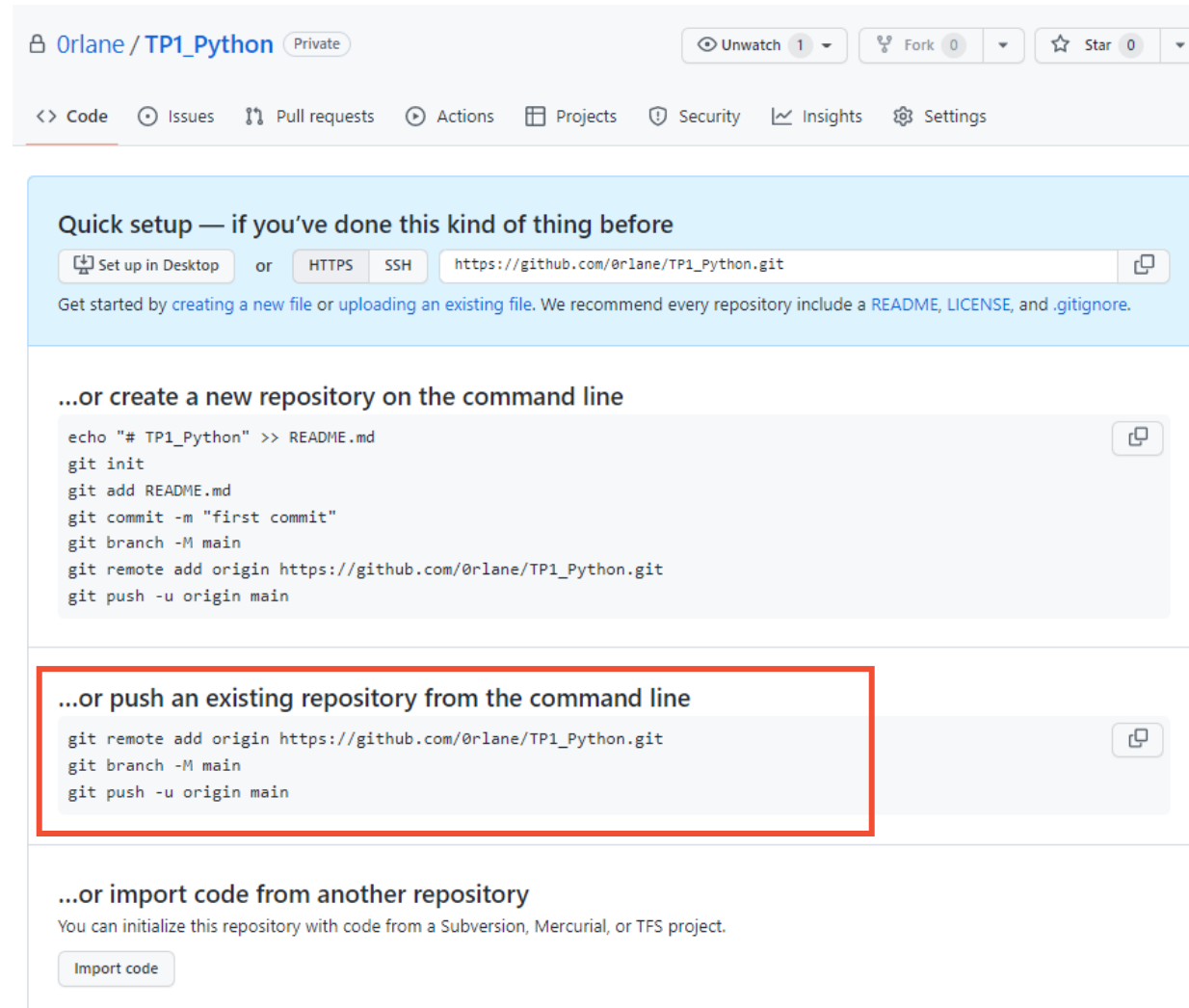
- Indexer le fichier « test.txt »:

```
orlan@DESKTOP-R310ILA MINGW64 ~/Dropbox/Cours à enseigner/2022-2023/C-C++ Oscar/TP1 (main)  
$ git add test.txt
```

- Créer une nouvelle version du projet:

```
orlan@DESKTOP-R310ILA MINGW64 ~/Dropbox/Cours à enseigner/2022-2023/C-C++ Oscar/TP1 (main)  
$ git commit -m "Ajout du fichier test.txt."  
[main 822d894] Ajout du fichier test.txt.  
1 file changed, 0 insertions(+), 0 deletions(-)  
create mode 100644 test.txt
```

# Dépôt local → dépôt distant



The screenshot shows the GitHub interface for a repository named 'Orlane / TP1\_Python' which is marked as 'Private'. At the top, there are buttons for 'Unwatch' (1), 'Fork' (0), and 'Star' (0). Below this is a navigation bar with links to 'Code', 'Issues', 'Pull requests', 'Actions', 'Projects', 'Security', 'Insights', and 'Settings'. The main content area is divided into three sections:

- Quick setup — if you've done this kind of thing before**: This section includes a 'Set up in Desktop' button, an 'or' separator, and buttons for 'HTTPS' and 'SSH'. A text input field contains the URL 'https://github.com/orlane/TP1\_Python.git'. Below this, a note says 'Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.'
- ...or create a new repository on the command line**: This section contains a code block with the following commands:

```
echo "# TP1_Python" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/orlane/TP1_Python.git
git push -u origin main
```
- ...or push an existing repository from the command line**: This section is highlighted with a red border and contains a code block with the following commands:

```
git remote add origin https://github.com/orlane/TP1_Python.git
git branch -M main
git push -u origin main
```
- ...or import code from another repository**: This section includes a note 'You can initialize this repository with code from a Subversion, Mercurial, or TFS project.' and an 'Import code' button.

# Dépôt local → dépôt distant

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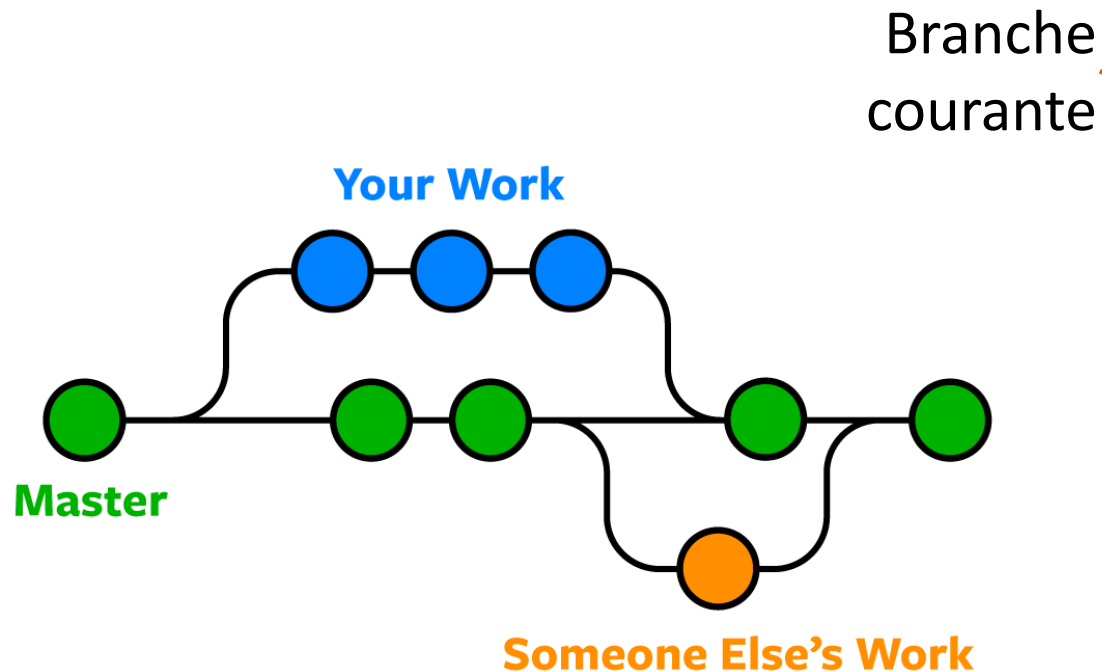
...or push an existing repository from the command line

```
git remote add origin https://github.com/0rlane/TP1_Python.git  
git branch -M main  
git push -u origin main
```

Ajout d'un dépôt distant déjà existant à git et liaison avec le dépôt local

Envoie des commits  
du dépôt local vers le  
dépôt distant GitHub

# Système des branches



- Lister les branches:

```
$ git branch  
* main
```

- Créer une nouvelle branche:

```
$ git branch Exercice1
```

- Se déplacer sur une autre branche:

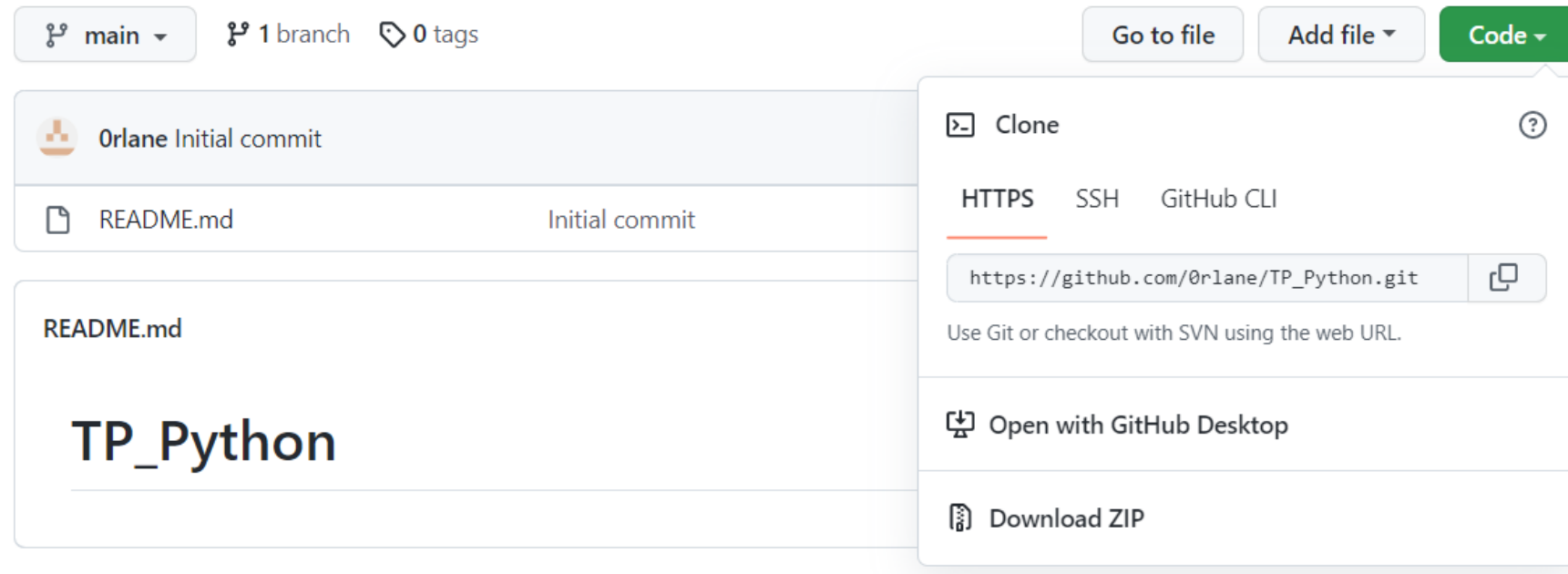
```
$ git checkout Exercice1  
Switched to branch 'Exercice1'
```

- Fusionner une branche à la branche parente:

```
$ git checkout main  
$ git merge Exercice1
```



# Dépôt distant → dépôt local




- Créer un clone du dépôt distant:

```
$ git clone https://github.com/Orlane/TP_Python.git
```


- Mettre à jour le dépôt local:







```
$ git pull origin main
```

# Collaboration sur GitHub

 new-version-css had recent pushes less than a minute ago [Compare & pull request](#)

🔑 master ▾ 🔑 3 branches 🏷️ 0 tags Go to file Add file ▾ Code ▾

 **ThomasT3563** Merge pull request #13 from Orlane/RES-propre ... fd221e7 on 21 Dec 2018 🕒 79 commits


 Fonctions_F_G.cpp	Add files via upload	4 years ago
 Fonctions_F_G.h	Add files via upload	4 years ago
 Matrice.h	Add files via upload	4 years ago
 NM.pts	Add files via upload	4 years ago
 Omega.pts	Add files via upload	4 years ago
 PS.RES	Add files via upload	4 years ago

# Collaboration sur GitHub

## Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).









































base: main ← compare: new-version-css ✓ **Able to merge.** These branches can be automatically merged.



Update style, turn all pages into blue

Write

Preview

H B I                                        

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

Create pull request

Reviewers

No reviews

Assignees

No one—assign yourself

Labels

None yet

Projects

None yet

Milestone

No milestone

Linked issues

Use [Closing keywords](#) in the description to automatically close issues

Helpful resources

[GitHub Community Guidelines](#)

1 commit

1 file changed

0 comments

1 contributor

Commits on Aug 22, 2021

Update style, turn all pages into blue

1bcf85d

Showing 1 changed file with 1 addition and 1 deletion.

Unified Split

style.css

@@ -1,3 +1,3 @@

1 1 h1 {

2 - color: red;

2 + color: blue;

3 3 }

UNIVERSITÉ DE  
RENNES 1

istic  
Informatique  
Électronique

Laboratoire Traitement du Signal et de l'Image  
LTSI

19

# Collaboration sur GitHub

Add files via upload #14 Edit <> Code

Open ThomasT3563 wants to merge 2 commits into `master` from `newT`

Conversation 0 Commits 2 Checks 0 Files changed 11 +53 -117

ThomasT3563 commented on 21 Dec 2018 Collaborator ...

No description provided.

ThomasT3563 and others added 2 commits 4 years ago

- ... Add files via upload Verified `8d15f6e`
- ... Add files via upload Verified `f827ebe`

Add more commits by pushing to the `newT` branch on `Orlane/Projet-CA0-V3`.

... Continuous integration has not been set up  
GitHub Actions and several other apps can be used to automatically catch bugs and enforce style.

✓ This branch has no conflicts with the base branch  
Merging can be performed automatically.

Merge pull request You can also open this in GitHub Desktop or view command line instructions.

Write Preview H B I ≡ <> 🔗 📋 📋 📋 @ 🔗 ↩

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

Close pull request Comment

Remember, contributions to this repository should follow our GitHub Community Guidelines.

Reviewers ⚙  
No reviews  
Still in progress? Convert to draft

Assignees ⚙  
No one—assign yourself

Labels ⚙  
None yet

Projects ⚙  
None yet

Milestone ⚙  
No milestone

Development ⚙  
Successfully merging this pull request may close these issues.  
None yet

Notifications Customize  
Subscribe  
You're not receiving notifications from this thread.

2 participants 👤 👤

Lock conversation