

Institut universitaire des sciences

Faculté : facultés des science et technologies

TD 1 – Systèmes

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Niveau : L3

Date : Vendredi 28 novembre 2025

Objectif du TD

L'objectif principal de ce TD était de **maîtriser les commandes de base de Git** pour initialiser un répertoire local en tant que dépôt, gérer les branches, effectuer des modifications, les *commiter*, puis **synchroniser** ce travail avec un dépôt distant (probablement hébergé sur une plateforme comme GitHub ou GitLab, désigné ici par origin).

The screenshot shows a Windows desktop environment. At the top, there is a taskbar with several pinned icons and a search bar. Below the taskbar, there are two windows open:

- GitHub Browser Window:** The URL is https://github.com. The page displays the GitHub homepage with options to "Create your first project", "Create repository", and "Import repository". It also features a search bar, a "Home" section with an "Ask anything" input field, and a "Try the new experience" button. A "Playlist" card for "GitHub for beginners on YouTube" is visible, showing a video thumbnail for "What is Git?".
- Terminal Window:** The title bar says "MINGW64/c/Users/aaaa/Desktop/TD". The terminal is running on a Windows system (Windows 10) and shows the following command-line session:

```
minGW64@DESKTOP-KJG60SH MINGW64 ~
$ git --version
git version 2.52.0.windows.1
minGW64@DESKTOP-KJG60SH MINGW64 ~
$ git config --global user.name "Xintray"
minGW64@DESKTOP-KJG60SH MINGW64 ~
$ git config --global user.name "aaaaalalo12003@gmail.com"
minGW64@DESKTOP-KJG60SH MINGW64 ~
$ git config --list
diff.astextplain.textconv=astextplain
filter.lfs.clean=clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.required=true
http.sslInsecureSchannel
core.autocrlf=true
core.fscache=true
core.symlinks=false
pull.rebase=false
credential.helper=manager
credential.http://dev.azure.com/usehttppath=true
init.defaultBranch=master
user.name=aaaaalalo12003@gmail.com
user.email=aaaaalalo12003@gmail.com
minGW64@DESKTOP-KJG60SH MINGW64 ~
$ ls
-1.14-windows.xml
"3D Objects/"
"AppData/"
"Apple"
"Application Data"
BIT95E0.tmp
"Contacts/"
"Cookies/"
"Desktop/"
"Documents/"
"Downloads/"
"Favorites/"
"IntelGraphicsProfiles/"
"Links"
"Local Settings@"
"Music"
"My Documents@"
NTUSER.DAT
NTUSER.DAT[16ef7413-abc8-11f0-85c9-c0f2a603ebaa].TxR.0.regrtrans-ms
NTUSER.DAT[16ef7413-abc8-11f0-85c9-c0f2a603ebaa].TxR.1.regrtrans-ms
NTUSER.DAT[16ef7413-abc8-11f0-85c9-c0f2a603ebaa].TxR.2.regrtrans-ms
NTUSER.DAT[16ef7413-abc8-11f0-85c9-c0f2a603ebaa].TxR.bif
```

```

MINGW64/c/Users/aaaaa/Desktop/TD
$ NTUSER.DAT[1gef7412-abc8-11f0-85c9-c0f2a603ebaa].TxR.b1F
$ NTUSER.DAT[1gef7414-abc8-11f0-85c9-c0f2a603ebaa].TM.b1F
$ NTUSER.DAT[1gef7414-abc8-11f0-85c9-c0f2a603ebaa].TMContainer00000000000000000000000000000000
1. regtrans-ms
$ NTUSER.DAT[1gef7414-abc8-11f0-85c9-c0f2a603ebaa].TMContainer00000000000000000000000000000000
2. regtrans-ms
$ netModifi
OneDrive/
Printhood
Recent
Roaming/
Saved Games/
Searches/
SendTo@
Start Menu@
Task View@
Videos/
ntuser.dat.LOG1
ntuser.dat.LOG2
ntuser.ini

aaaaaadDESKTOP-KJG60SH MINGW64 ~
$ cd Desktop
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop
$ mkdir projet-git
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop
$ cd projet-git
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git
$ git init
Initialized empty Git repository in c:/users/aaaaa/desktop/projet-git/.git/
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ echo "Hello Git!" > README.md
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ git add README.md
warning: The working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ git commit -m "Premier commit avec PowerShell"
[master (root-commit) 7296d46] Premier commit avec PowerShell
 1 file changed, 1 insertion(+)
 create mode 100644 README.md
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ git status
On branch master
nothing to commit, working tree clean
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ git log
Commit 7296d46e705e9957a4fc087bee980f2504a92f0 (HEAD -> master)
Author: aaaaalalo12003@gmail.com <aaaaalalo12003@gmail.com>
Date: Thu Nov 27 15:17:35 2025 -0500
29°C ENG 5:19 PM 11/27/2025

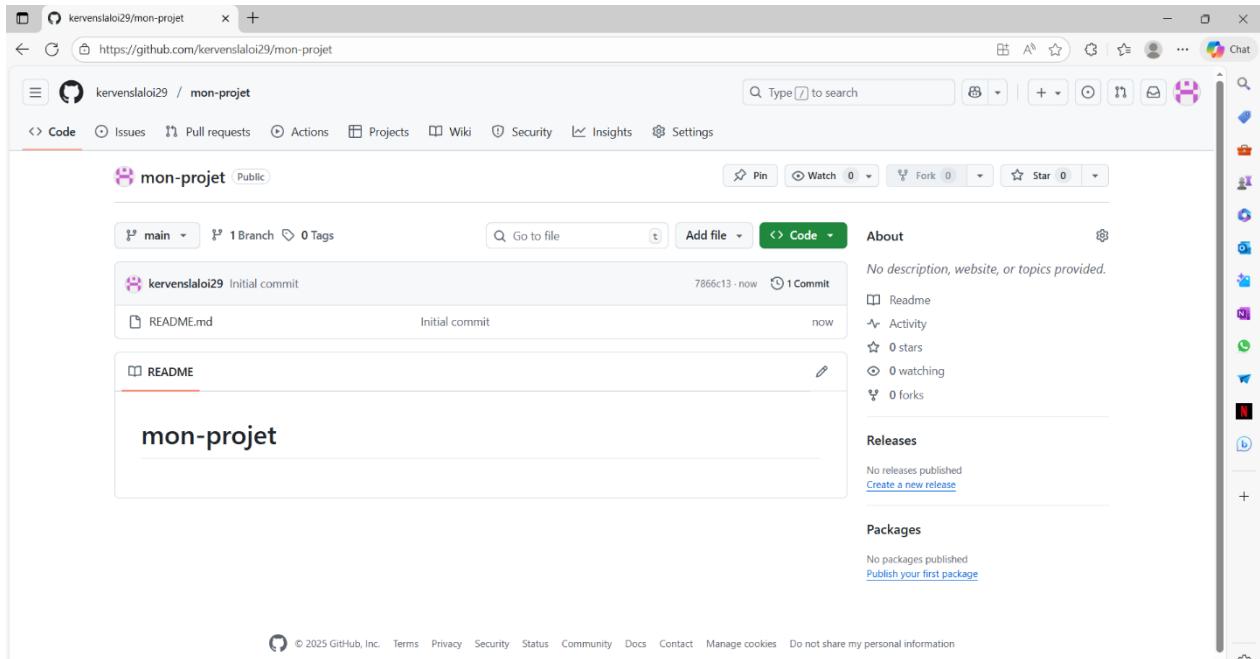
Windows Type here to search 31 P S11 2025 29°C ENG 5:19 PM 11/27/2025

MINGW64/c/Users/aaaaa/Desktop/TD
Premier commit avec PowerShell
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop
$ cd ..
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop
$ ssh-keygen -t rsa -b 2048 -C "aaaaalalo12003@gmail.com"
Generating public key
Enter file in which to save the key (/c/Users/aaaaa/.ssh/id_ed25519):
/c/Users/aaaaa/.ssh/id_ed25519 already exists.
Overwrite (y/n)? y
Enter passphrase for "/c/Users/aaaaa/.ssh/id_ed25519" (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/aaaaa/.ssh/id_ed25519
Your public key has been saved in /c/Users/aaaaa/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:42:34:56:78:90:12:34:56:78:90:12:34:56:78:90:12
The key's randomart image is:
++[ED25519 256]++
          O
         + o
        . + Eo
      . . . S . +
     .o .+o . o
    .o .+o .+o .
   .o .+o .+o .+
  [+o .+o .+o .]
++[SHA256]+++
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop
$ cat ~/.ssh/id_ed25519
-----BEGIN OPENSSH PRIVATE KEY-----
b3B1bmNzCl1ZkxtdjEAAAAABG5vbmlUAxIb0jZQAMAAAAMAMAWwAAAtzc2tZW
bQVwAaXQ0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0Q0
HgMAAAzL2gIZQ0yNTWQ0XAAxDxtciq1R993C/rl1l0z4cz0rtkCu3ws2EvVkr29dyA
AAAEDXN0d01le9ctEx23k8z0LStvhqtzvZG-SqpxhmT0lpnyKvH33cL8Sutls5nhx
p1GZQK5Z2bbpw8qt1n13AAAGFhWfhGFsb2kyMDAxQGdtYwLSlNvb0JECAwQF
-----END OPENSSH PRIVATE KEY-----
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop
$ cat ~/.ssh/id_ed25519.pub
ssh-ed25519 AAAAC3NzaC1ZD0lNTE5AAAAI0lphyKrVH33cL8Sutls5nhxmp1G20K5Z2bbpw8qt1n13I
aaaaalalo12003@gmail.com

aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop
$ cd Desktop
bash: cd: Desktop: No such file or directory
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop
$ cd Desktop
bash: cd: Desktop: No such file or directory
aaaaaadDESKTOP-KJG60SH MINGW64 ~/Desktop
$ cd ~/Desktop

```

```
MINGW64/c/Users/aaaa/Desktop/TD
$ cd Desktop
bash: cd: Desktop: No such file or directory
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop
$ cd Desktop
bash: cd: Desktop: No such file or directory
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop
$ cd ~Desktop
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop
$ git clone https://github.com/xntray/projet001.git
Cloning into 'projet001'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100%, 3/3, done.
remote: Total 0 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop
$ ls
desktop.ini msvcr100.zip projet-git/ projet001/
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop
$ cd mon-projet
bash: cd: mon-projet: No such file or directory
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop
$ cd projet001
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet001 (main)
$ echo "Systeme d'exploitation" > Module.txt
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet001 (main)
$ git add .
warning: The working copy of 'Module.txt', LF will be replaced by CRLF the next time Git touches it
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet001 (main)
$ git commit -m "Add module"
[main a74d2a3] Add module
1 file changed, 1 insertion(+)
create mode 100644 Module.txt
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet001 (main)
$ git branch -M main
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet001 (main)
$ git push origin main
Counting objects: 100%, done.
Delta compression using up to 4 threads
Compressing objects: 100%, (2/2), done.
Writing objects: 100% (2/2), 60.00 KiB/s, done.
Total 2 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/xntray/projet001.git
   d'ebab0c..a74d2a3 main -> main
branch 'main' set up to track 'origin/main'.
Windows Search Type here to search 29°C ENG S:20 PM 11/27/2025
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (master)
Please make sure you have the correct access rights
and the repository exists.
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (master)
$ git branch -
fatal: '-' is not a valid branch name
hint: See 'man git check-ref-format'
hint: Disable this message with 'git config set advice.refSyntax false'
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (master)
$ 
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (master)
$ git branch -M main
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (main)
$ ls
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (main)
$ mkdir image
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (main)
$ mkdir presentation
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (main)
$ mkdir projet
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (main)
$ ls image/ presentation/ projet/
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/systeme (main)
$ cd ..
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD
$ mkdir reseauI
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD
$ cd reseauI
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/reseauI
$ ls
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/reseauI
$ mkdir image
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/reseauI
$ mkdir presentation
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/reseauI
$ mkdir projet
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD/reseauI
$ cd ..
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/TD
$ |
```



```
MINGW64/c/Users/aaaa/Desktop/ID
r: cannot remove '/etc/post-install/01-devices.post': Permission denied
r: cannot remove '/etc/post-install/03-mtab.post': Permission denied
r: cannot remove '/etc/post-install/06-windows-files.post': Permission denied
r: cannot remove '/etc/post-install/99-post-install-cleanup.post': Permission denied
ended

aaaaa@DESKTOP-KJGG6OSH MINGW64 ~ (main)
$ git --version
git version 2.52.0.windows.1

aaaaa@DESKTOP-KJGG6OSH MINGW64 ~ (main)
$ git config --global user.name "kervenslalo129"
aaaaa@DESKTOP-KJGG6OSH MINGW64 ~ (main)
diff.astextplain.textconv=astextplain
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
http.sslbackend=tls-npn-channel
core.autocrlf=true
core.fscache=true
core.symlinks=false
pull.rebase=false
credential.helper=manager
credential https://dev.azure.com/usehttppath=true
init.defaultbranch=master
user.name=kervenslalo129
user.email=aaaaa@lalo12003@gmail.com
core.repositoryformatversion=0
core.filenc=false
core.bare=false
core.logallrefupdates=true
core.symlinks=false
core.ignorecase=true

aaaaa@DESKTOP-KJGG6OSH MINGW64 ~ (main)
$ git config --global user.email "kervenslalo129@gmail.com"
aaaaa@DESKTOP-KJGG6OSH MINGW64 ~ (main)
$ git config --list
diff.astextplain.textconv=astextplain
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
http.sslbackend=tls-npn-channel
core.autocrlf=true
core.fscache=true
core.symlinks=false
pull.rebase=false
credential.helper=manager
credential https://dev.azure.com/usehttppath=true
init.defaultbranch=master
user.name=kervenslalo129
user.email=kervenslalo129@gmail.com
core.repositoryformatversion=0
```

```

MINGW64/c/Users/aaaa/Desktop/TD
core.filesmode=false
core.larv=false
core.logallrefupdates=true
core.symlinks=false
core.ignorecase=true
aaaaa@DESKTOP-KJG60SH MINGW64 ~ (main)
$ ls
-1.14-windows.xml
"20 Projects"
AppData/
Application
'Application Data'@
BIT9SE0.tpm
Contacts/
Cookies/
Desktop/
Documents/
Downloads/
Favorites/
IntelGraphicsProfiles/
Links/
Local Settings@
Music/
My Documents@
System/
'User Data'@
NTUSER.DAT{16ef7413-abc8-11f0-85c9-c0f2a603ebaa}.TxR.0.retrans-ms
NTUSER.DAT{16ef7413-abc8-11f0-85c9-c0f2a603ebaa}.TxR.1.retrans-ms
NTUSER.DAT{16ef7413-abc8-11f0-85c9-c0f2a603ebaa}.TxR.2.retrans-ms
NTUSER.DAT{16ef7413-abc8-11f0-85c9-c0f2a603ebaa}.TM.bif
NTUSER.DAT{16ef7414-abc8-11f0-85c9-c0f2a603ebaa}.TM.bif
NTUSER.DAT{16ef7414-abc8-11f0-85c9-c0f2a603ebaa}.TMContainer00000000000000000000000000000000
1.retrans-ms
NTUSER.DAT{16ef7414-abc8-11f0-85c9-c0f2a603ebaa}.TMContainer00000000000000000000000000000000
2.retrans-ms
NetHood/
OneDrive/
Printhood/
Recent/
Roaming/
'Saved Games'
Searches/
SendTo/
Start menu*
Taskbar*
Videos/
VirtualBox VMs/
ntuser.dat.LOG1
ntuser.dat.LOG2
ntuser.ini
aaaaa@DESKTOP-KJG60SH MINGW64 ~ (main)
$ cd Desktop
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop (main)
$ mkdir projet-git
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop (main)
$ cd projet-git
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (main)
$ git init
Initialized empty Git repository in C:/users/aaaaa/Desktop/projet-git/.git/
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ echo "Hello Git!" > README.md
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ git add README.md
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ git commit -m "Premier commit avec PowerShell"
[master (root-commit) 5a8a9de] Premier commit avec PowerShell
1 file changed, 1 insertion(+)
create mode 100644 README.md
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ git status
On branch master
nothing to commit, working tree clean
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ git log
commit 5a8a9dec7945cd6ed21a15cd47d3f7df2005 (HEAD -> master)
Author: kervenslaloi29 <kervenslaloi29@gmail.com>
Date:   Fri Nov 28 17:04:33 2025 +0500
    Premier commit avec PowerShell
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop/projet-git (master)
$ cd ..
aaaaa@DESKTOP-KJG60SH MINGW64 ~/Desktop (main)
$ ssh-keygen -t ed25519 -C "kervenslaloi29@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/C/Users/aaaaa/.ssh/id_ed25519):
/C/Users/aaaaa/.ssh/id_ed25519 already exists.
Overwrite (y/n)? y
Enter passphrase for "/C/Users/aaaaa/.ssh/id_ed25519" (empty for no passphrase):
Enter passphrase again:
Your identification has been saved in /C/Users/aaaaa/.ssh/id_ed25519
Your public key has been saved in /C/Users/aaaaa/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:6cX835/bvUs/QE+yErV1YKt+t3wZHgP06zzpg3PNtU kervenslaloi29@gmail.com
The key's randomart image is:
+--[Ed25519 256]--+
|          o         |
|         . o        |
|          o .       |
|           o =      |
|            + .     |
|             . .    |

```

Conclusions

Résumé des acquis

Ce TD a permis d'acquérir une **compréhension pratique** des concepts fondamentaux de la gestion de version distribuée avec **Git**. J'ai appris à :

- **Initialiser** un dépôt et **structurer** son contenu.
- Utiliser les trois états de Git : le répertoire de travail, la zone de *staging* (git add), et l'historique du dépôt (git commit).
- Gérer les **branches** (git branch -M).
- **Synchroniser** le travail local avec un dépôt distant (git push).

Difficultés rencontrées et ainsi les solutions trouvées :

J'ai rencontré pas mal de difficultés, surtout avec les nouvelles commandes et je ne pouvais pas faire de push. Mais grâce à l'aide que m'ont apportée les étudiants, j'ai pu arriver à destination et bien comprendre ce que je devais faire. Maintenant, je pense être en mesure de vous envoyer tous les td.