

**UNIVERSITE DE TECHNOLOGIE D'HAITI**  
**SCES INFORMATIQUES**  
**Année Universitaire:2025-2026**  
**Niveau III**

# **SECURITE INFORMATIQUE**

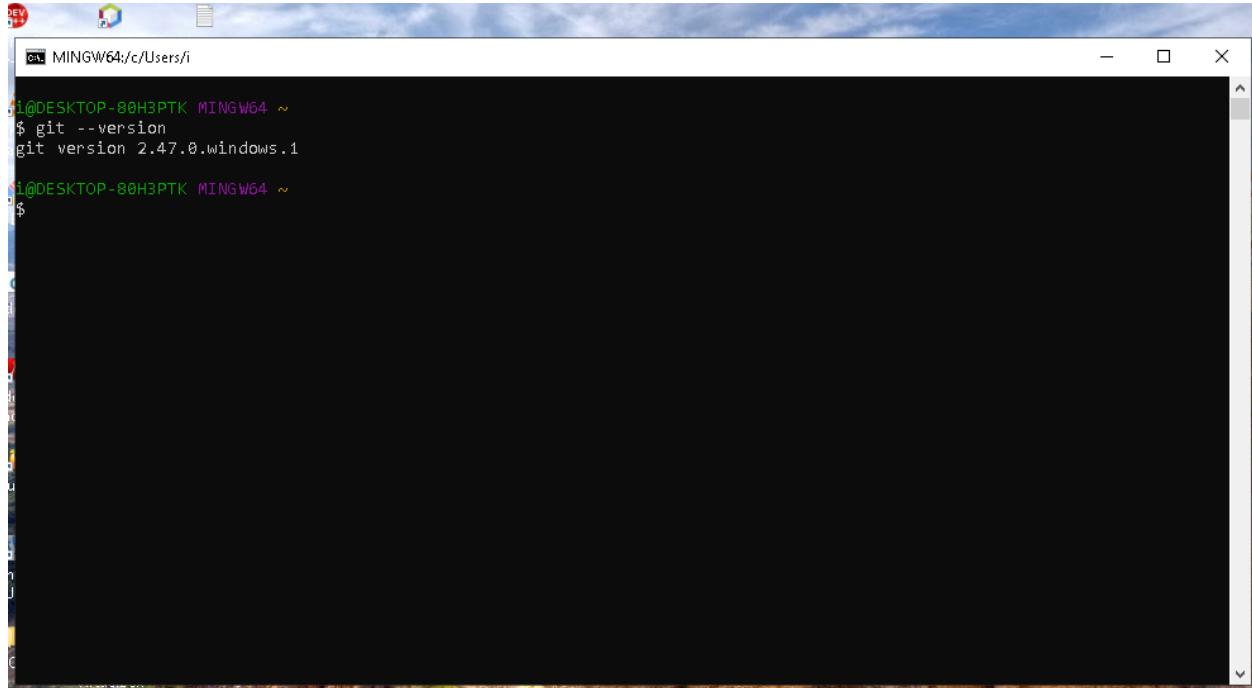
**Présenté par**  
**Maurélus Micaël**

**Sous la direction**  
**Du monsieur Saint Amour Ismael**

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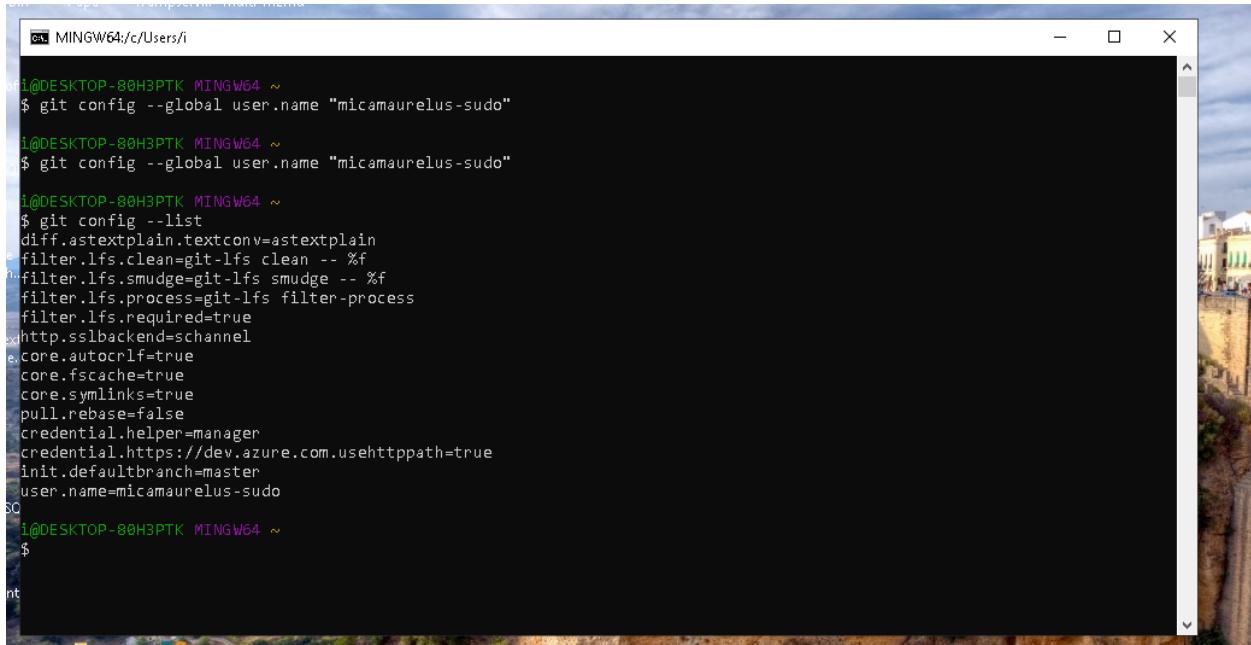
## 1-Installation de Git



```
i@DESKTOP-80H3PTK MINGW64 ~
$ git --version
git version 2.47.0.windows.1
i@DESKTOP-80H3PTK MINGW64 ~
$
```

Apres installation je verifie la version de Git .

Pour ce TD jaurai a manipuler Git,Creer des dossiers,les lires etc...

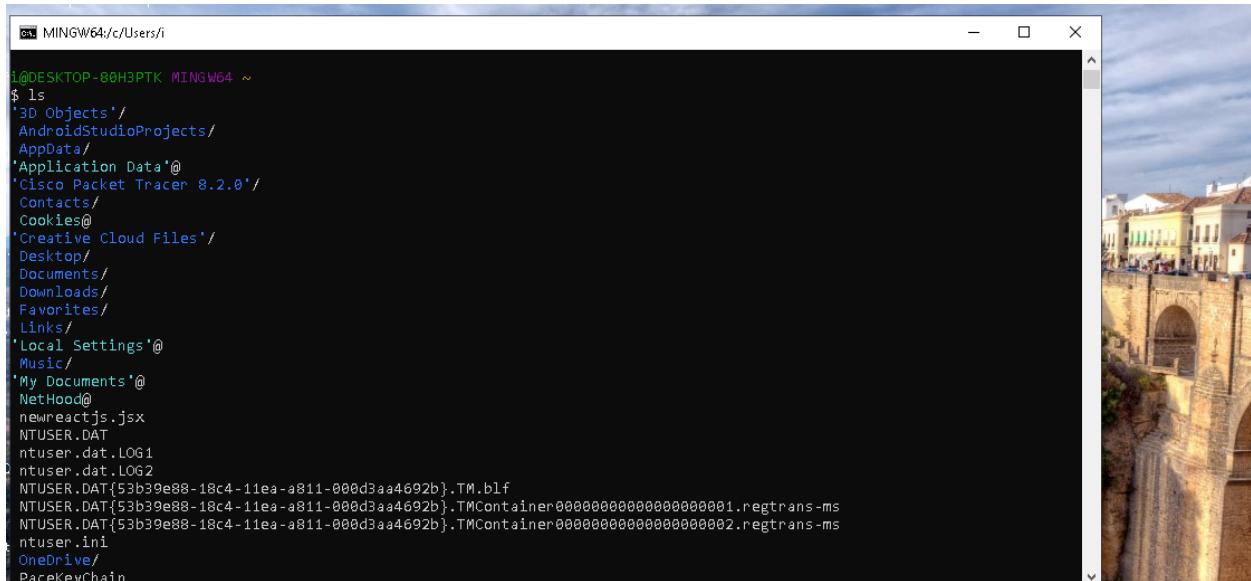


```
1@DESKTOP-80H3PTK MINGW64 ~
$ git config --global user.name "micamaurelus-sudo"

1@DESKTOP-80H3PTK MINGW64 ~
$ git config --global user.name "micamaurelus-sudo"

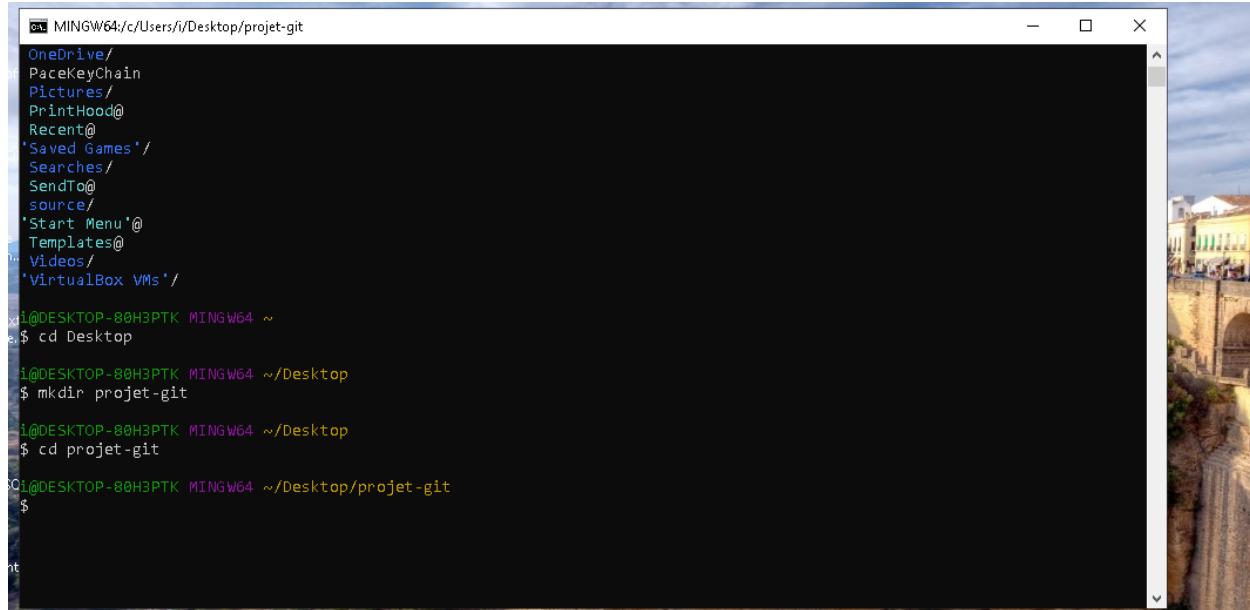
1@DESKTOP-80H3PTK MINGW64 ~
$ git config --list
diff.astextplain.textconv=astextplain
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
http.sslbackend=schannel
core.autocrlf=true
core.fscache=true
core.symlinks=true
pull.rebase=false
credential.helper=manager
credential.https://dev.azure.com/usehttppath=true
init.defaultbranch=master
user.name=micamaurelus-sudo
$0
1@DESKTOP-80H3PTK MINGW64 ~
$
```

Puisque j'avais déjà créé un compte sur github donc je m'y connecte



```
1@DESKTOP-80H3PTK MINGW64 ~
$ ls
'D Objects'
AndroidStudioProjects/
AppData/
'Application Data'@
'Cisco Packet Tracer 8.2.0'/
Contacts/
Cookies@
'Creative Cloud Files'/
Desktop/
Documents/
Downloads/
Favorites/
Links/
'Local Settings'@
Music/
'My Documents'@
NetHood@
newreactjs.jsx
NTUSER.DAT
ntuser.dat.LOG1
ntuser.dat.LOG2
NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TM.blf
NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TMContainer00000000000000000001.regtrans-ms
NTUSER.DAT{53b39e88-18c4-11ea-a811-000d3aa4692b}.TMContainer00000000000000000002.regtrans-ms
ntuser.ini
OneDrive/
PaceKeyChain
```

J'utilise la commande ls pour révéler les dossiers se trouvant sur ma machine



The screenshot shows a Windows terminal window titled 'MINGW64/c/Users/i/Desktop/projet-git'. The window displays a file tree on the left and a command-line session on the right. The command-line session shows the user navigating to their desktop, creating a new directory named 'projet-git', and then changing into that directory.

```
c:\ MINGW64/c/Users/i/Desktop/projet-git
OneDrive/
PaceKeyChain
Pictures/
PrintHood@
Recent@
'Saved Games'/
Searches/
SendTo@
source/
'Start Menu'@
Templates@
Videos/
'VirtualBox VMs'/

i@DESKTOP-80H3PTK MINGW64 ~
$ cd Desktop

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ mkdir projet-git

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ cd projet-git

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git
$
```

Avec cd Desktop je monte sur le dossier Desktop

Et ensuite je passe la commande suivante mkdir projet-git me permettant de créer un dossier du nom de projet-git et ensuite j'ouvre ce dossier

```
cd MINGW64:/c/Users/i/Desktop/projet-git
Searches/
SendTo@_
source/
'Start Menu'@_
Templates@_
Videos/
'VirtualBox VMs'/

i@DESKTOP-80H3PTK MINGW64 ~
$ cd Desktop
1/1

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ mkdir projet-git

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ cd projet-git

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git
$ git init
Initialized empty Git repository in C:/Users/i/Desktop/projet-git/.git/

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ git add README.md
fatal: pathspec 'README.md' did not match any files

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ echo "Hello Git!" > README.md

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$
```

Avec git init,j'initialise le dossier en succedent avec les commandes suivantes git add README.md(pour ajouter un fichier readme)

Et en utilisant la commande echo je peux ecrire dedans.

```
c:\ MINGW64:/c/Users/i/Desktop/projet-git
i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ git config --global user.name "micamaurelus-sudo"

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ git commit -m "Premier commit avec powershell"
Author identity unknown

*** Please tell me who you are.

Run

git config --global user.email "you@example.com"
git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: unable to auto-detect email address (got 'i@DESKTOP-80H3PTK.(none)')

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ git config --global user.email "micamaurelus@gmail.com"

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ git commit -m "Premier commit avec powershell"
[master (root-commit) 4fc4192] Premier commit avec powershell
 1 file changed, 1 insertion(+)
 create mode 100644 README.md

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$
```

**J'avais rencontré un léger problème et j'ai tout arrange**

```
Mult MINGW64:/c/Users/i/Desktop/projet-git
to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: unable to auto-detect email address (got 'i@DESKTOP-80H3PTK.(none)')

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ git config --global user.email "micamaurelus@gmail.com"

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ git commit -m "Premier commit avec powershell"
[master (root-commit) 4fc4192] Premier commit avec powershell
 1 file changed, 1 insertion(+)
 create mode 100644 README.md

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ git status
On branch master
nothing to commit, working tree clean

Visu i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$ git log
commit 4fc41929f87d64229dfd494ee37c9f6be5cfbf4 (HEAD -> master)
Author: micamaurelus-sudo <micamaurelus@gmail.com>
Date:   Tue Jan 13 15:08:29 2020 -0500

  Premier commit avec powershell

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/projet-git (master)
$
```

Apres avoir passé ces commandes j'ai pu créer un repertoire et le pusher sur github

```
MINGW64:/c/Users/i
i@DESKTOP-80H3PTK MINGW64 ~
$ ssh -V
OpenSSH_10.2p1, OpenSSL 3.5.4 30 Sep 2025

i@DESKTOP-80H3PTK MINGW64 ~
$ ssh-keygen -t ed25519 -C "micamaurelus@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/c/Users/i/.ssh/id_ed25519):
Created directory '/c/Users/i/.ssh'.
Enter passphrase for "/c/Users/i/.ssh/id_ed25519" (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/i/.ssh/id_ed25519
Your public key has been saved in /c/Users/i/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:JVTjMcixtJWw1jr/9JfcdtU34PmHZTtB+n37/CcpNm4 micamaurelus@gmail.com
The key's randomart image is:
+--[ED25519 256]--+
|          .++*.
|          0+=.+ |
|          ++o   |
|          oo. . .|
|          .S. . = .|
|          o   + o*|
|          o   o=O |
|          ..E=+O*|
|          =+O++%|
+---[SHA256]---+
i@DESKTOP-80H3PTK MINGW64 ~
```

Cette commande permet de générer une clé ssh sur git

```

MINGW64:/c/Users/i
Your identification has been saved in /c/Users/i/.ssh/id_ed25519
Your public key has been saved in /c/Users/i/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:JVTjMcixtJWijr/9JfCdtU34PmHZTb+n37/CcpNm4 micamaurelus@gmail.com
The key's randomart image is:
++-[ED25519 256] ++
.++*.
O+=.+ |
++o |
oo. . .
.S. . = .
o o o=0|
..E+=O*|
=+o++%
+---[SHA256]-----+
i@DESKTOP-80H3PTK MINGW64 ~
$ cat ~/.ssh/id_ed25519
-----BEGIN OPENSSH PRIVATE KEY-----
b3BlbnNzaC1rZXktdjEAAAAACmFlczI1Ni1jdHIAAAAGYmNyeXB0AAAAGAAAABAUu vzb5
yDgcUXALiglW3MAAAAAGAAAAAEEAAzAAAAC3NzaC1ZDI1NTE5AAAAIJ/niaSPsLg6QrWc
cB9FhX3kVNj7c10LrQqMSzf1WSufAAAoH8VAuvvNx4HTE1XQoHpPs5E1PhxFvwvdAhsd3a
C58rGxtgpRo4sjSf+9L7ByF+Br9pBG9xH572lVueJMWHscJiMdgkXuvPBVGJ3t9dhFI1XO
20nwuetuEl+2lwbtHATMKiis+2fpwtqyFbjlv4Q6KdOoQjJ2uu0y2bVAYOAhMsWPw5xPogs
CebHzp18oyY3fhQfGZ66Ms07OhCVKFvut750w=
-----END OPENSSH PRIVATE KEY-----
i@DESKTOP-80H3PTK MINGW64 ~
$ STUDIO Studio

```

## Add new SSH Key

Title

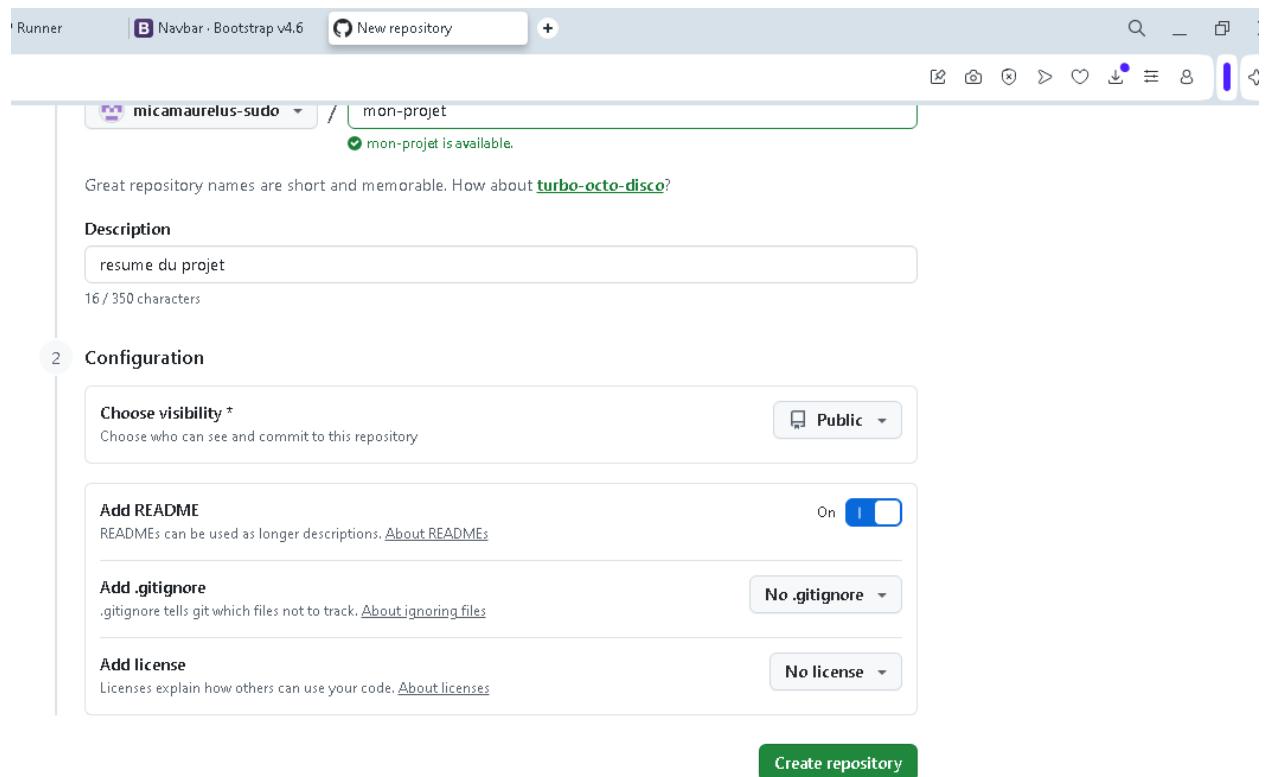
Key type

Key

```

-----BEGIN OPENSSH PRIVATE KEY-----
b3BlbnNzaC1rZXktdjEAAAAACmFlczI1Ni1jdHIAAAAGYmNyeXB0AAAAGAAAABAUu vzb5
yDgcUXALiglW3MAAAAAGAAAAAEEAAzAAAAC3NzaC1ZDI1NTE5AAAAIJ/niaSPsLg6QrWc
cB9FhX3kVNj7c10LrQqMSzf1WSufAAAoH8VAuvvNx4HTE1XQoHpPs5E1PhxFvwvdAhsd3a
C58rGxtgpRo4sjSf+9L7ByF+Br9pBG9xH572lVueJMWHscJiMdgkXuvPBVGJ3t9dhFI1XO
20nwuetuEl+2lwbtHATMKiis+2fpwtqyFbjlv4Q6KdOoQjJ2uu0y2bVAYOAhMsWPw5xPogs
CebHzp18oyY3fhQfGZ66Ms07OhCVKFvut750w=
-----END OPENSSH PRIVATE KEY-----

```



On prend la clé on le place dans add ssh key sur github

The screenshot shows a terminal window titled 'MINGW64' running on a Windows system. The user is navigating through their home directory (~) and creating an SSH key pair. They run 'ssh-keygen' to generate a key, then copy the public key ('id\_ed25519.pub') to the clipboard. Next, they open a browser tab for GitHub and paste the key into the 'Add SSH Key' form, giving it a descriptive name like 'mon-projet'. Finally, they click the 'Add Key' button to save the key to GitHub's database.

```
c:\ MINGW64:/c/Users/i/Desktop
Please make sure you have the correct access rights
and the repository exists.

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ ls ~/.ssh
id_ed25519 id_ed25519.pub known_hosts

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ eval "$(ssh-agent -s)"
Agent pid 1538

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ ssh-add ~/.ssh/id_ed25519
Enter passphrase for /c/Users/i/.ssh/id_ed25519:
Identity added: /c/Users/i/.ssh/id_ed25519 (micamaurelus@gmail.com)

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ cat ~/.ssh/id_ed25519.pub
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIJ/niaSPsLg6QrWccB9FhX3kVNj7cI0LrQqMSZflw5Uf micamaurelus@gmail.com

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ git clone git@github.com:micamaurelus-sudo/mon-projet.git
Cloning into 'mon-projet'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$
```

Pour générer la clé publique, si nécessaire il faudrait passer par les étapes suivantes et enfin la place dans add ssh key sur github

Etant sur github, apres avoir créé un repertoire  
la commande git clone permet de cloner ce repertoire sur la machine  
ainsi on aura la possiblite d'y porter des changements

```
l@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ cat ~/.ssh/id_ed25519.pub
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIJ/niaSPsLg6QrWccB9FhX3kVNj7cI0LrQqMSZflw5UF micamaurelus@gmail.com

l@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ git clone git@github.com:micamaurelus-sudo/mon-projet.git
Cloning into 'mon-projet'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.

l@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ ssh -T git@github.com
Hi micamaurelus-sudo! You've successfully authenticated, but GitHub does not provide shell access.

l@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ ls
μTorrent.lnk*          'DEVWA HTML.7z'           'MEmu.lnk'*          projet-git/
'Adobe Photoshop 2021.lnk'*  DEVWA_SQL/          'Microsoft Edge.lnk'*  TPBootstrap/
'Android Studio.lnk'*      DEVWA_SQL.7z          'mon-projet/'        TPMODELE/
CC.c                   'Embarcadero Dev-C++.lnk'*  'Multi-MEmu.lnk*'  Untitled-1.c
'Cisco Packet Tracer.lnk'* 'Git Bash.lnk'*       'New Text Document (2).txt'  'Visual Studio 2022.lnk'* 
desktop.ini             icons8_phone_50px_1.png  'New Text Document.txt'  'Visual Studio Code.lnk'* 
'devwa calcu.txt'        icons8_whatsapp_32px_5.png 'Papa/'                'iZotope RX 11 Audio Editor.lnk'* 
'DEVWA HTML/'           'iZotope RX 11 Audio Editor.lnk'*  'Pianoteq STUDIO.lnk'* 

l@DESKTOP-80H3PTK MINGW64 ~/Desktop
$
```

Pour vérifier si ça a fonctionné je passe les commandes suivantes pour voir si le dossier cloner est réellement là.

```

MINGW64:/c/Users/i/Desktop/mon-projet
*Adobe Photoshop 2021.lnk* * DEWWASQL/
*Android Studio.lnk* * DEVWASQL.7z * Microsoft Edge.lnk* * TPBootstrap/
*CC.c * Embarcadero Dev-C++.lnk* * mon-projet/ TPMODELE/
*Cisco Packet Tracer.lnk* * Git Bash.lnk* * Multi-MEmu.lnk* Untitled-1.c
desktop.ini * icons8_phone_50px_1.png * New Text Document (2).txt * Visual Studio 2022.lnk*
*DEWWA calcu.txt* * icons8_whatsapp_32px_5.png * New Text Document.txt * Visual Studio Code.lnk*
*DEWWA HTML/* * iZotope RX 11 Audio Editor.lnk* * Pianoteq STUDIO.lnk*

i@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ cd mon-projet

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/mon-projet (main)
$ echo "Système d'exploitation!" >Module.txt

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/mon-projet (main)
$ git add .
Warning: in the working copy of 'Module.txt', LF will be replaced by CRLF the next time Git touches it

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/mon-projet (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   Module.txt

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/mon-projet (main)
$ MINGW64:/c/Users/i/Desktop/mon-projet
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   Module.txt

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/mon-projet (main)
$ git commit -m "Ajout Module"
[main 97e0029] Ajout Module
 1 file changed, 1 insertion(+)
 create mode 100644 Module.txt

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/mon-projet (main)
$ git branch -M main

i@DESKTOP-80H3PTK MINGW64 ~/Desktop/mon-projet (main)
$ git push -u origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 303 bytes | 151.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:micamaurelus/mon-projet.git
  199f03a..97e0029 main -> main
branch 'main' set up to track 'origin/main'.

```

J'ai porté quelque changement, et j'ai actualisé pour que les changements soient à jour sur GitHub en pushant le dossier cloner.

```
MINGW64;/c/Users/i/Desktop/TD/TD1Git/systeme
'dewwa calcu.txt'           'icons8_whatsapp_32px_5.png'      'Papa/'          'Visual Studio 2022.lnk'*  'Visual Studio Code.lnk'* 
'DEVWA HTML'/'              'iZotope RX 11 Audio Editor.lnk'* 'Pianoteq STUDIO.lnk'* 

1@DESKTOP-80H3PTK MINGW64 ~/Desktop
$ cd TD

1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD (main)
$ ls
Module.txt README.md TD1Git/ TD1Linux/
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD (main)
$ cd TD1Git

1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git (main)
$ mkdir systeme
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git (main)
$ cd systeme
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/systeme (main)
$ mkdir image
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/systeme (main)
$ mkdir projet
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/systeme (main)
$ mkdir presentation
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/systeme (main)
$ 

NetBeans ... /calcu.txt
MINGW64;/c/Users/i/Desktop/TD/TD1Git

1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/systeme (main)
$ mkdir projet
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/systeme (main)
$ mkdir presentation
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/systeme (main)
$ cd ..
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git (main)
$ mkdir reseauI
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git (main)
$ cd reseauI
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/reseauI (main)
$ mkdir image
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/reseauI (main)
$ mkdir projet
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/reseauI (main)
$ mkdir presentation
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git/reseauI (main)
$ cd ..
1@DESKTOP-80H3PTK MINGW64 ~/Desktop/TD/TD1Git (main)
$
```

Et la je cree les dossiers qui seront necessaire pour l'hébergement du devoir.

## PETITE RESUME

Avec ce TD j'ai beaucoup appris ,

Par exemple j'ai appris la base necessaire sur git en paralnt de:comment creer un dossier,lire ce dossier .

Comment poster ce dossier sur github.

Sans oublier que j'ai appris a me connecter sur mon compte github de par Gitbash,de generer une cle

Et enfin sur github,j'ai enfin appris a creer un repertoire et a le cloner sur mamachine.

J'ai rencontré des difficultés quant a la connexion de mon compte sur git et l'autre difficulté ca a été d'extraire la clé ssh publique.

J'ai beaucoup aimé.





















