

Bekerja dengan Git

Dr. T. Brenda Chandrawati



Apa itu Git

- Salah satu tool yang sering digunakan dalam proyek pengembangan software



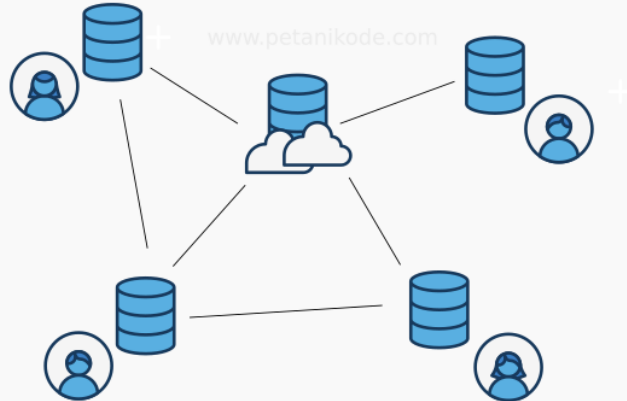
Apa itu Git



- Salah satu system pengontrol versi (version Control System) pada perangkat lunak
- Pengontrol versi bertugas mencatat setiap perubahan pada file proyek yang dikerjakan oleh banyak orang maupun mandiri

Apa itu Git

- Dikenal juga dengan distributed revision control (VCS terdistribusi)



Apa itu Git



- Semua orang yang terlibat dalam pengkodean proyek akan menyimpan database Git, sehingga akan memudahkan dalam mengelola proyek baik online maupun offline

Apa yang dilakukan Git



- Memantau semua perubahan yang terjadi pada file proyek, kemudian menyimpannya ke dalam database

Apa yang dilakukan Git

- Sebelum menggunakan Git



final.doc



final-revisi.doc



final-revisi-lagi.doc

petanikode.com



final-revisi
lagi-lagi.doc



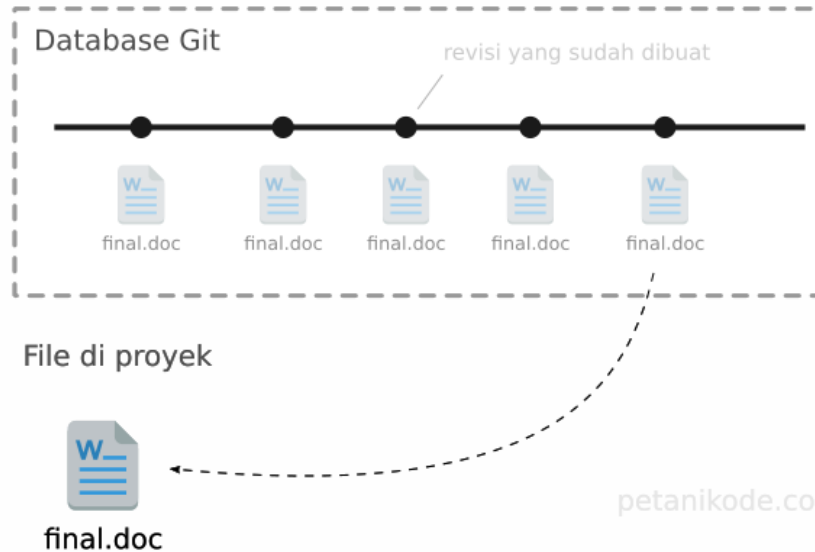
final-revisi
lagi-lagi-final.doc



final-revisi
lagi-lagi-lagi
lagi-lagi....doc

Apa yang dilakukan Git

- Sesudah menggunakan Git



Mengapa Git penting?

...

-



Mengapa Git penting?

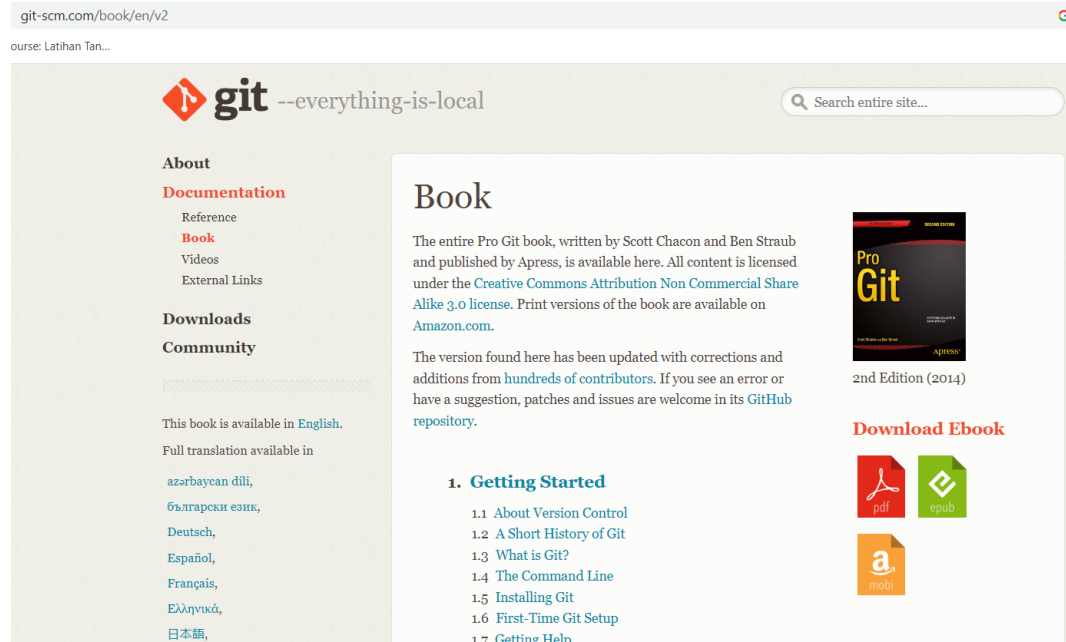


- Kolaborasi
- Dapat menyimpan seluruh versi source code
- Bisa ikut berkontribusi ke proyek open-source
- Lebih aman digunakan kolaborasi
- Dapat memahami cara deploy aplikasi modern



Ebook Git

- <https://git-scm.com/book/en/v2>



The screenshot shows the 'Pro Git' book page on the git-scm.com website. The page has a light beige background. At the top, there's a navigation bar with the Git logo and the tagline '--everything-is-local'. Below this, a search bar is visible. The main content area is divided into a left sidebar and a main body. The sidebar contains links for 'About', 'Documentation' (with sub-links for Reference, Book, Videos, and External Links), 'Downloads', and 'Community'. The main body features the title 'Book' and a paragraph explaining that the entire Pro Git book, written by Scott Chacon and Ben Straub, is available here under the Creative Commons Attribution Non Commercial Share Alike 3.0 license. It also mentions that the version found here has been updated with corrections and additions from hundreds of contributors. To the right of the text is a book cover image for 'Pro Git' by Scott Chacon and Ben Straub, published by Apress. Below the cover, it says '2nd Edition (2014)'. Further down, there's a 'Download Ebook' section with icons for PDF, EPUB, and MOBI formats. A list of chapters is also visible, starting with '1. Getting Started'.

git-scm.com/book/en/v2

course: Latihan Tan...

git --everything-is-local

Search entire site...

About

Documentation

- Reference
- Book**
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Book

The entire Pro Git book, written by Scott Chacon and Ben Straub and published by Apress, is available here. All content is licensed under the [Creative Commons Attribution Non Commercial Share Alike 3.0 license](#). Print versions of the book are available on [Amazon.com](#).

The version found here has been updated with corrections and additions from [hundreds of contributors](#). If you see an error or have a suggestion, patches and issues are welcome in its [GitHub repository](#).

Download Ebook

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1. Getting Started


- 1.1 About Version Control
- 1.2 A Short History of Git
- 1.3 What is Git?
- 1.4 The Command Line
- 1.5 Installing Git
- 1.6 First-Time Git Setup
- 1.7 Getting Help

Ebook Git

- <https://git-scm.com/dook/id/v2>

git-scm.com/book/id/v2

Course: Latihan Tan...

 **git** --everything-is-local

About
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Book

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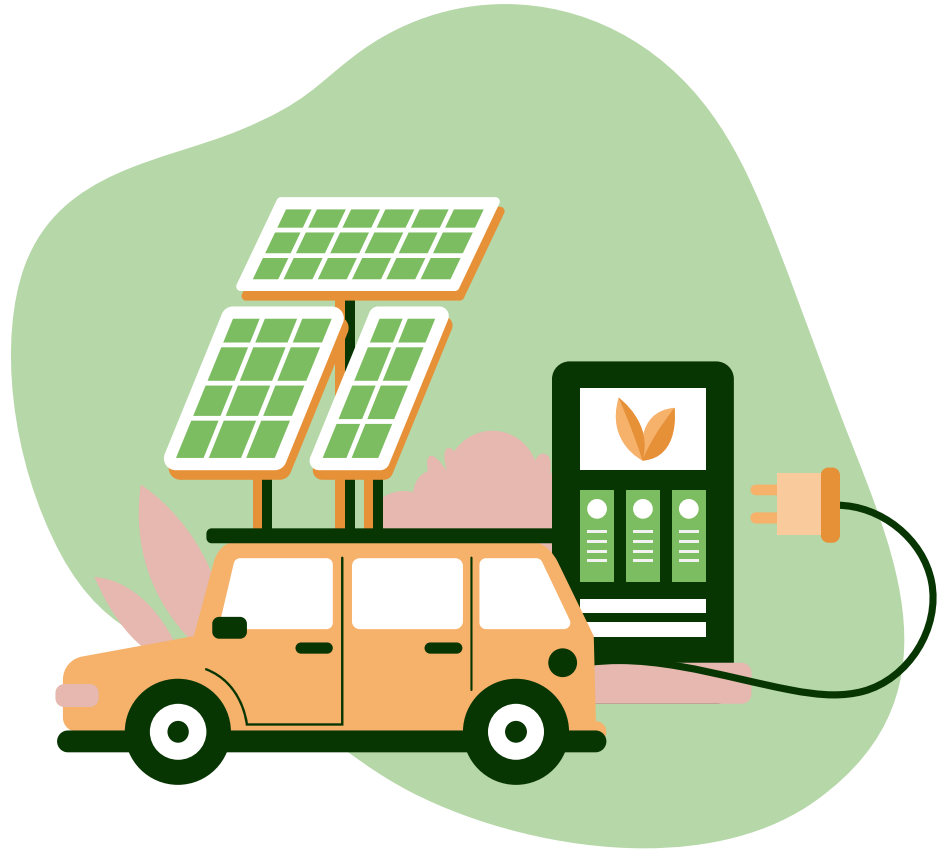


2nd Edition (2014)

1. Memulai

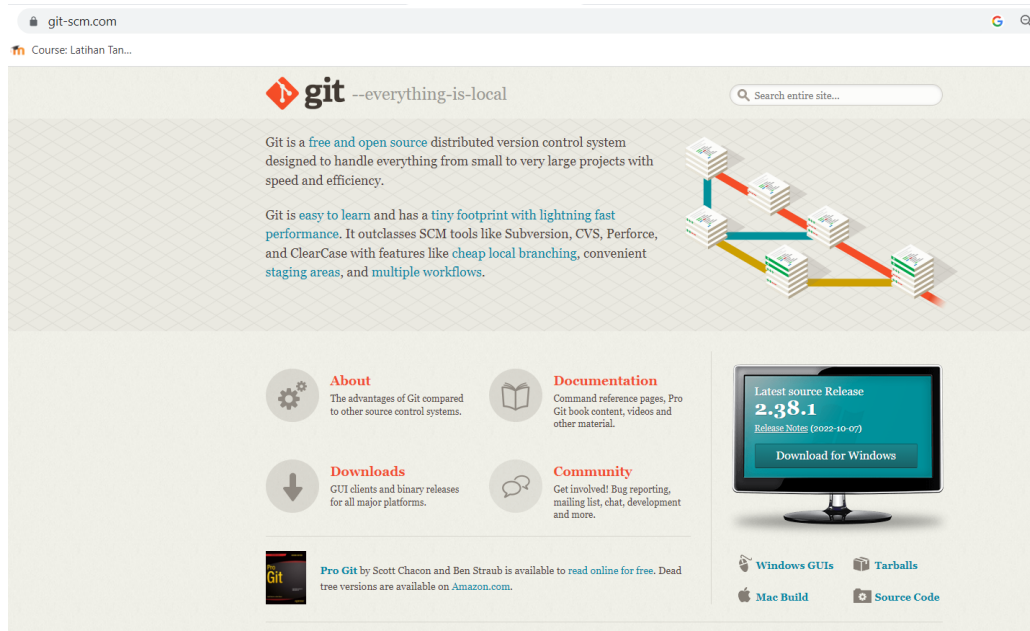
- 1.1 Tentang Version Control
- 1.2 Sejarah Singkat Git
- 1.3 Dasar-dasar Git
- 1.4 Command Line
- 1.5 Memasang Git
- 1.6 Pengaturan Awal Git
- 1.7 Mendapatkan Bantuan
- 1.8 Kesimpulan

Install Git & Konfigurasi awal




Mengunduh Git

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



Mengunduh Git



 **git** --local-branching-on-the-cheap

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](#).

Download for Windows

[Click here to download](#) the latest (**2.38.1**) **64-bit** version of **Git for Windows**. This is the most recent [maintained build](#). It was released **about 1 month ago**, on 2022-10-18.

Other Git for Windows downloads

Standalone Installer
[32-bit Git for Windows Setup](#).
[64-bit Git for Windows Setup](#).

Portable ("thumbdrive edition")
[32-bit Git for Windows Portable](#).
[64-bit Git for Windows Portable](#).

Using winget tool




Install [winget tool](#) if you don't already have it, then type this command in command prompt or Powershell.

```
winget install --id Git.Git -e --source winget
```

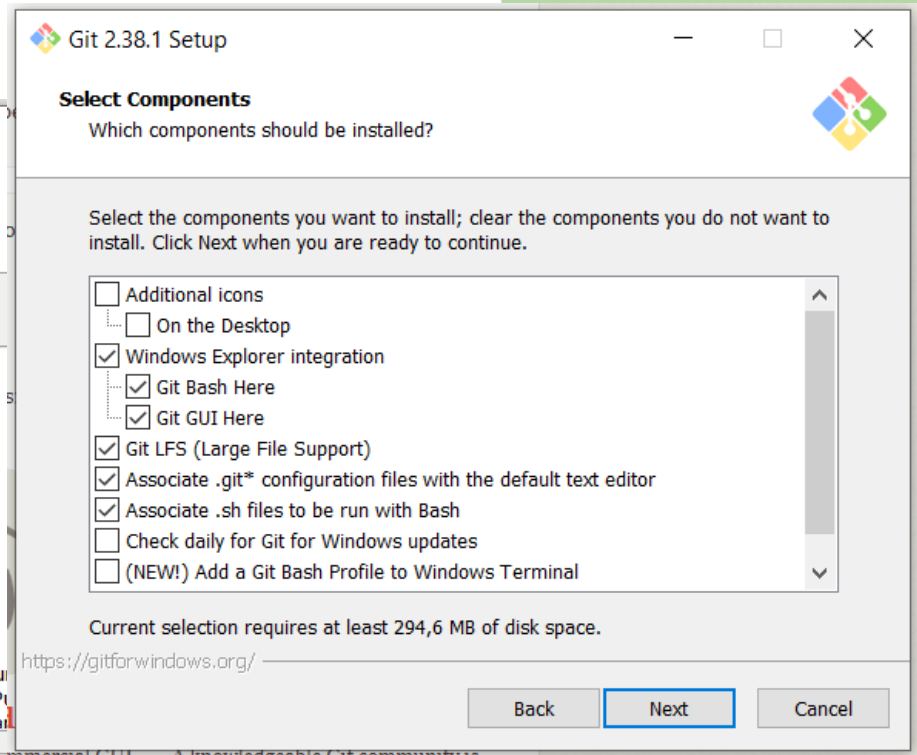
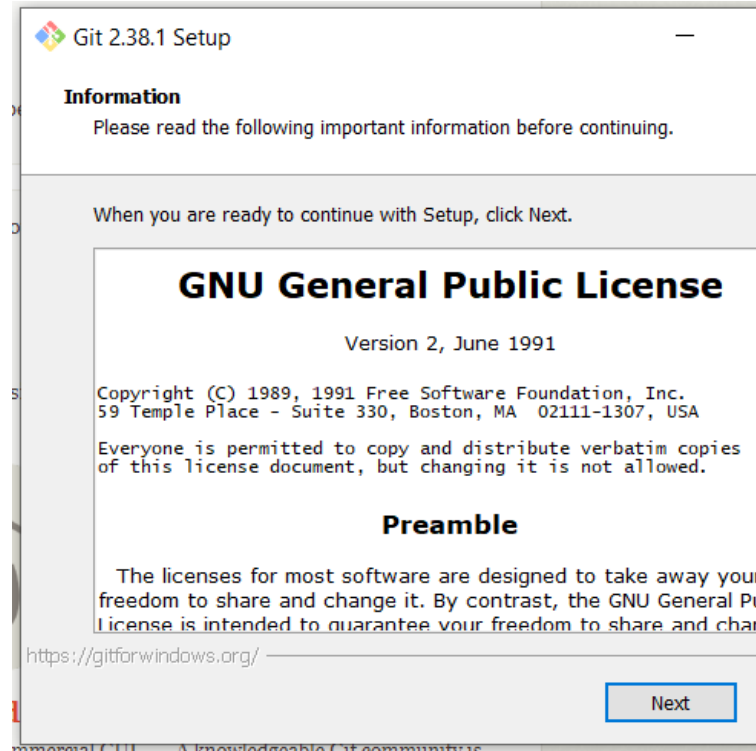
The current source code release is version **2.38.1**. If you want the newer version, you can build it from [the source code](#).

Now What?

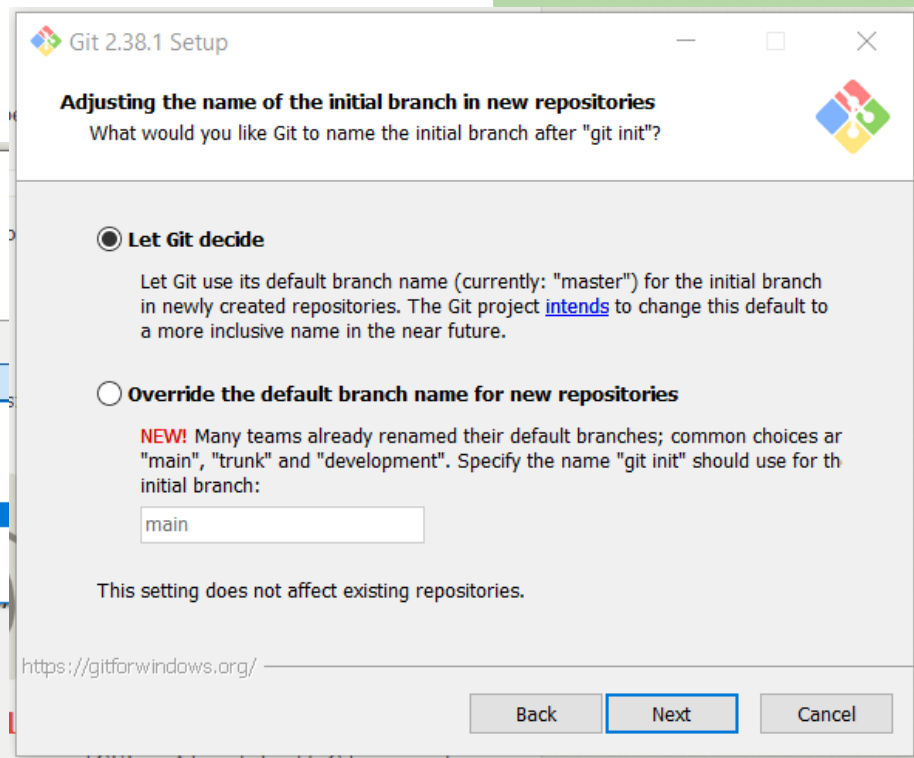
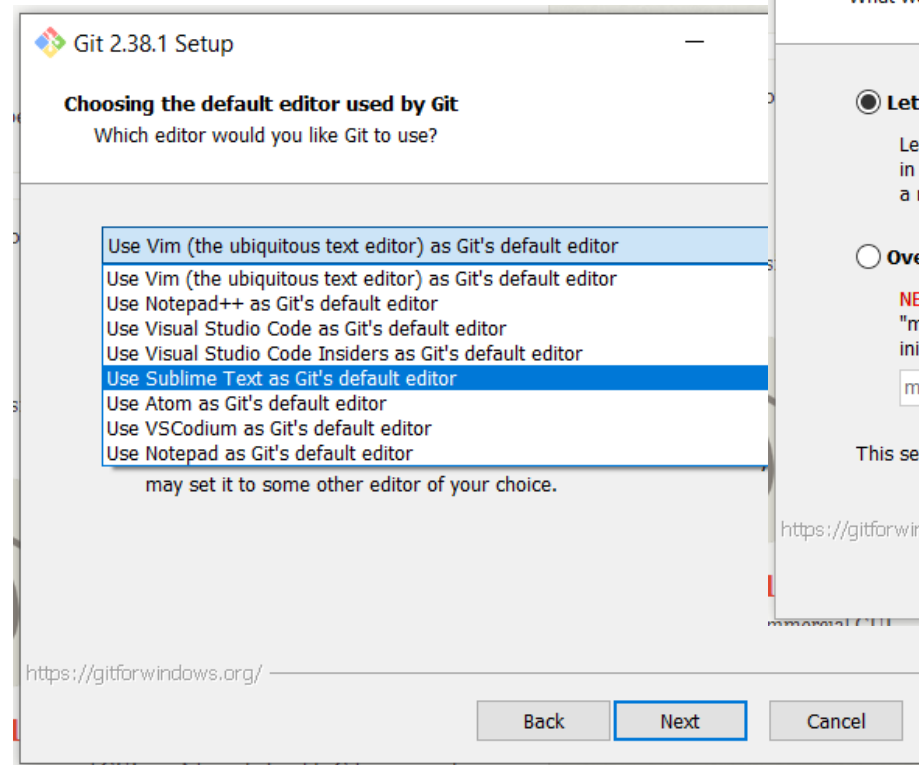
Now that you have downloaded Git, it's time to start using it.



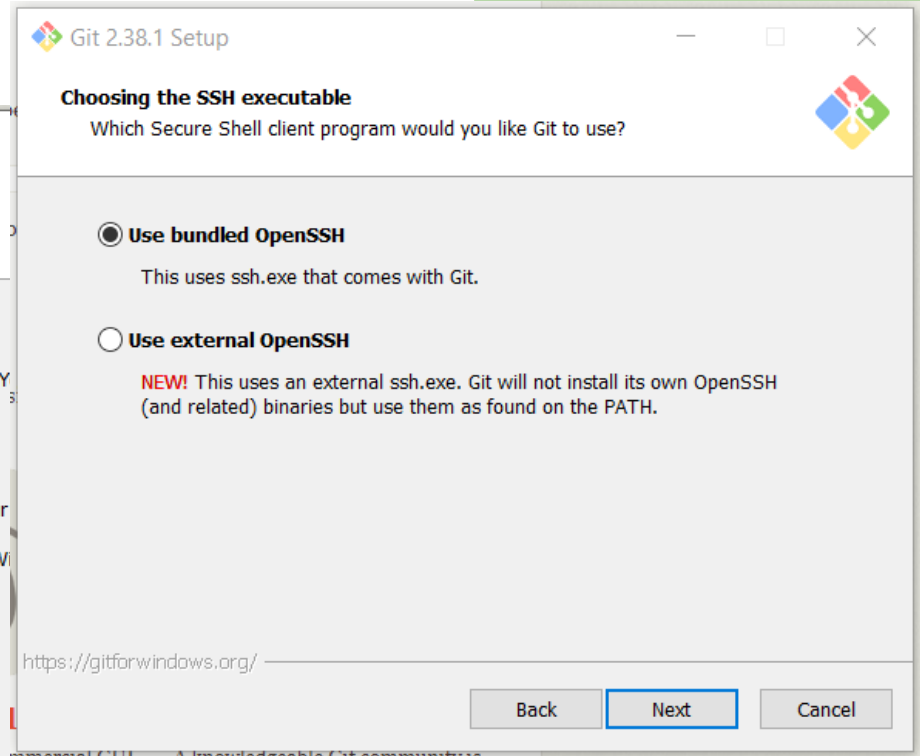
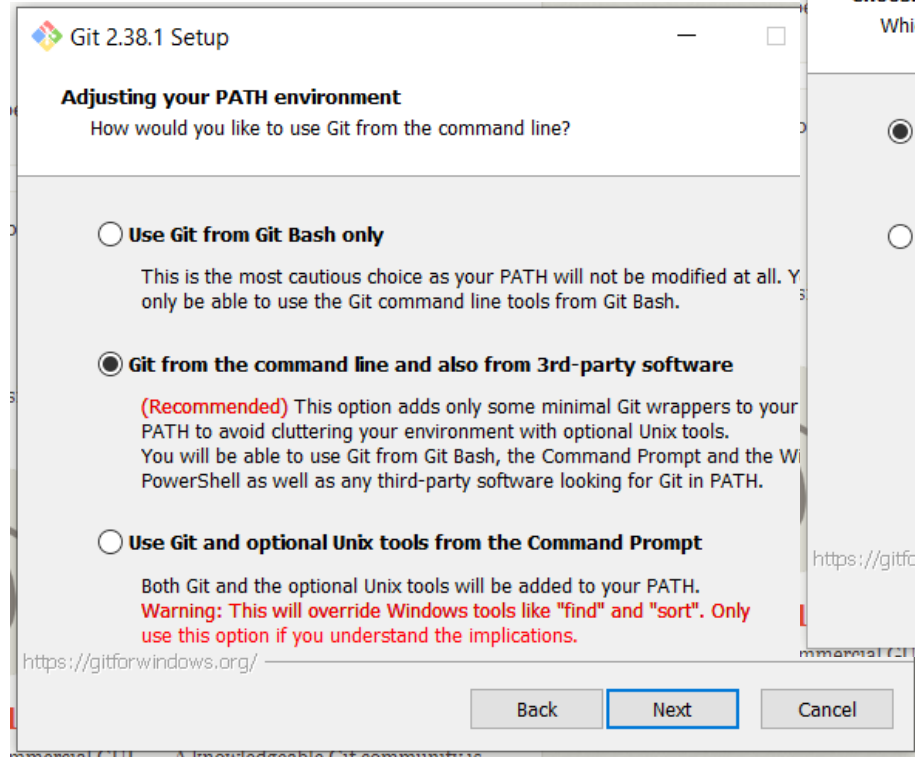
Menginstall Git



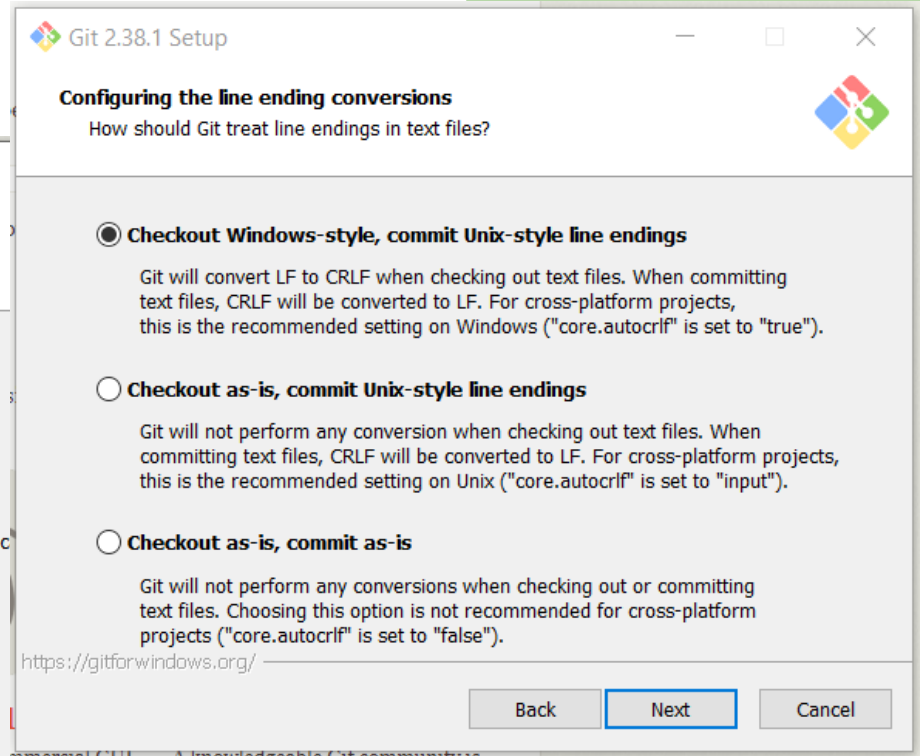
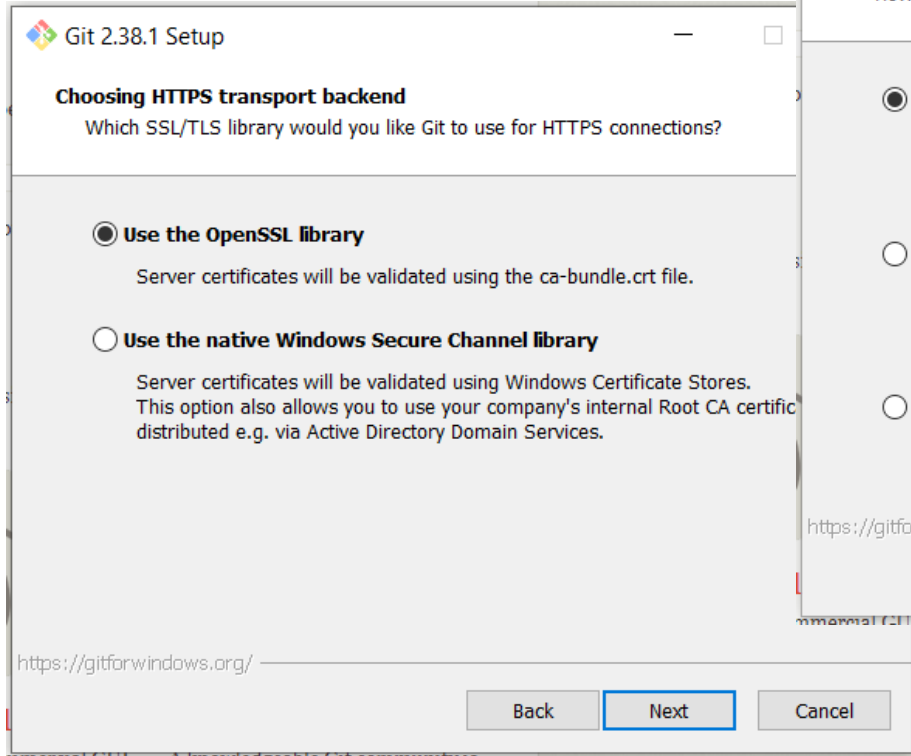
Menginstall Git



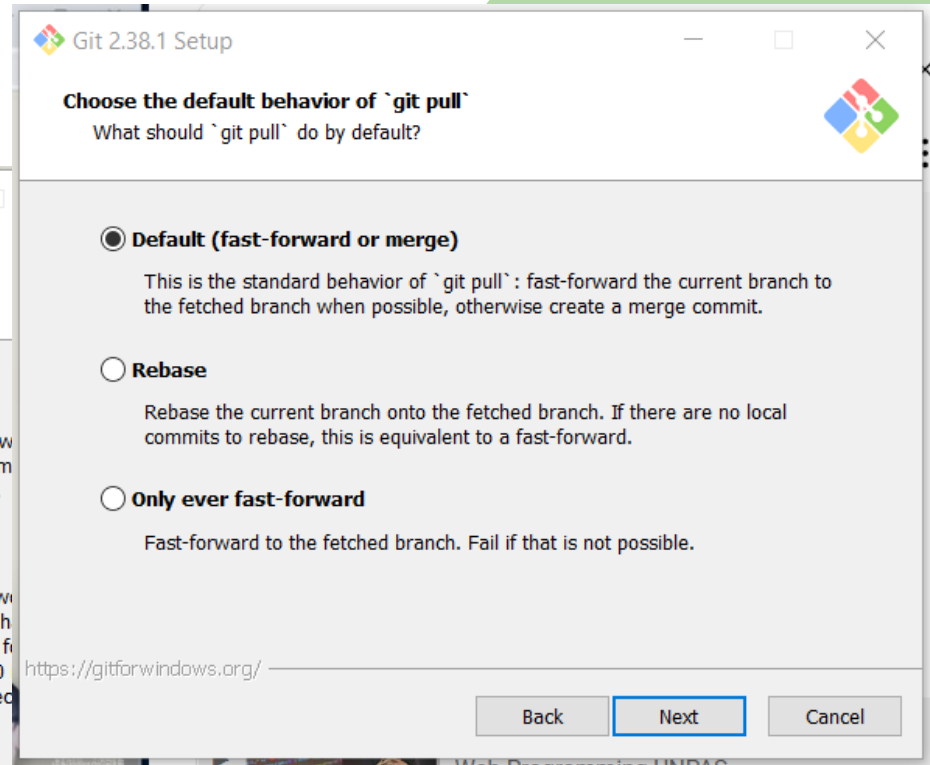
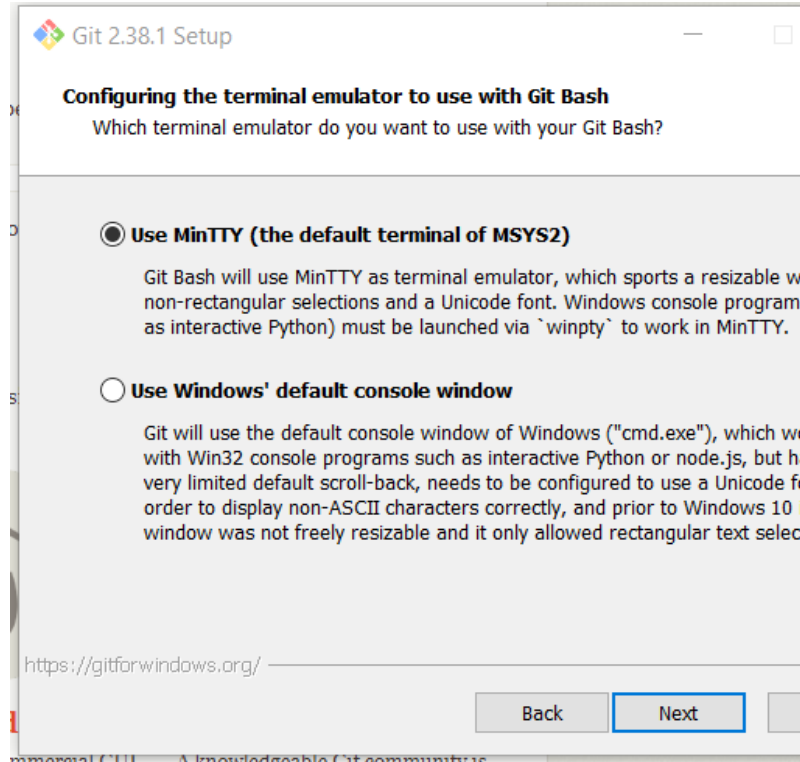
Menginstall Git



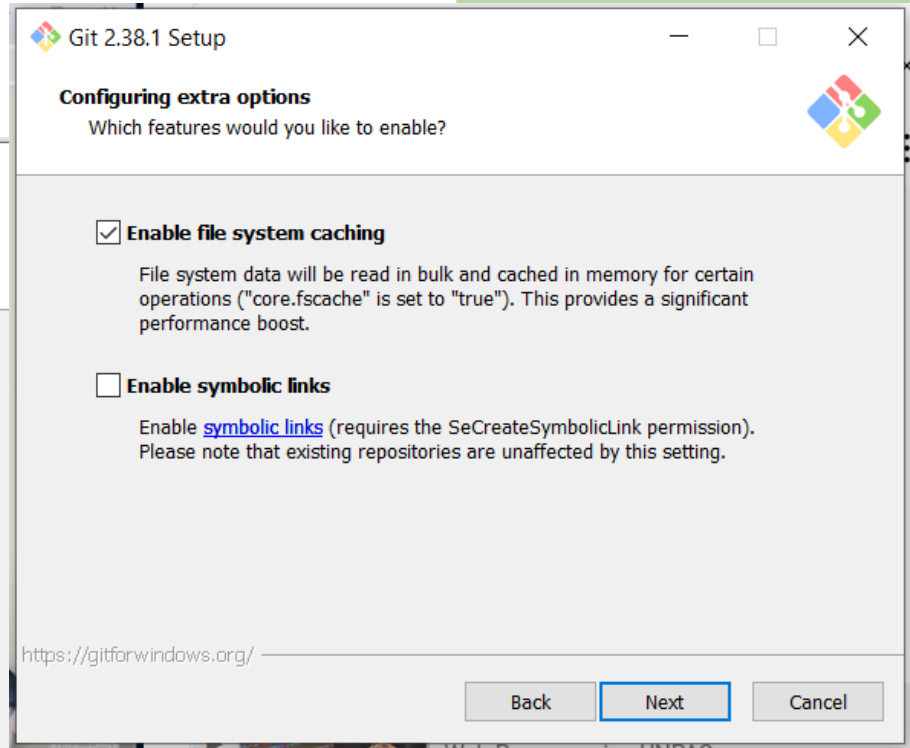
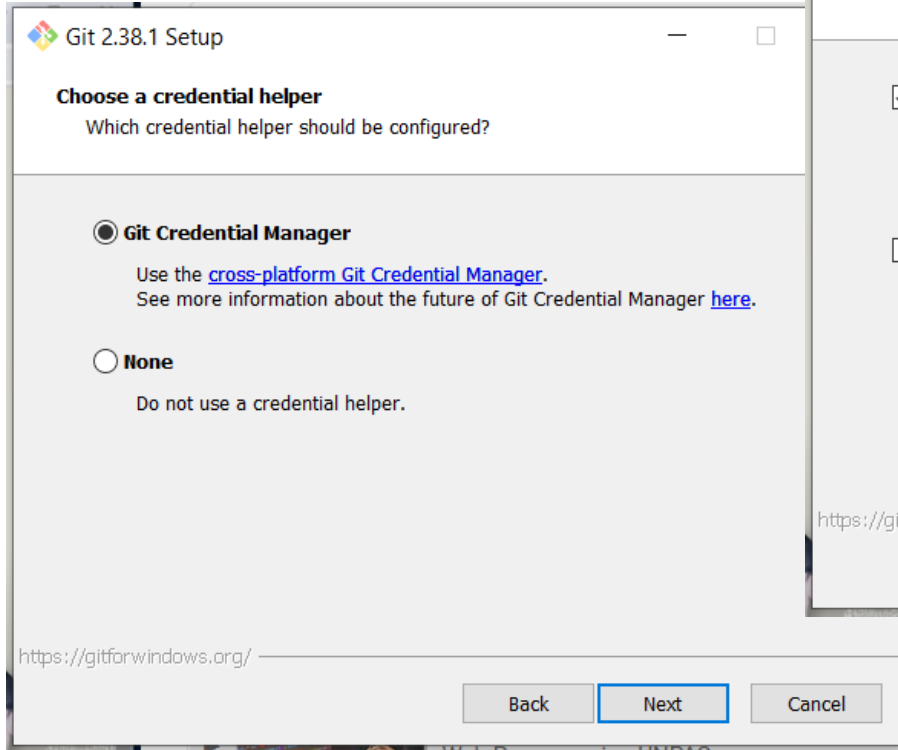
Menginstall Git



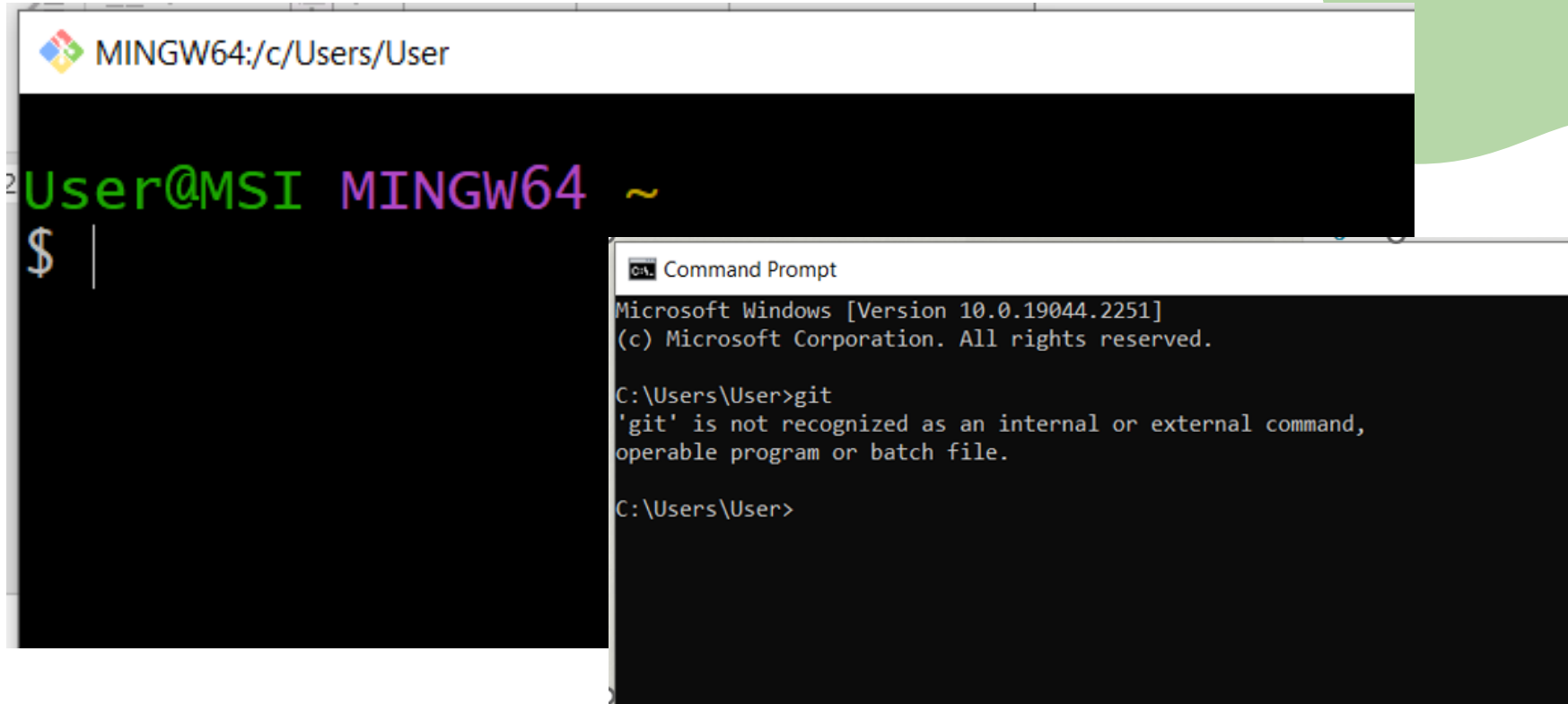
Menginstall Git



Menginstall Git



Menginstall Git



The image shows two overlapping terminal windows. The background window is a MINGW64 terminal with a title bar showing the MINGW64 logo and the path "/c/Users/User". The prompt is "User@MSI MINGW64 ~" and the cursor is at the "\$" prompt. The foreground window is a Windows Command Prompt with a title bar showing the Git logo and the text "Command Prompt". It displays the Windows version "10.0.19044.2251" and the copyright notice "(c) Microsoft Corporation. All rights reserved.". The user has entered the command "git" at the "C:\Users\User>" prompt, and the system has responded with the message: "'git' is not recognized as an internal or external command, operable program or batch file." The prompt is now "C:\Users\User>" again.

```
MINGW64:/c/Users/User

User@MSI MINGW64 ~
$ |

Command Prompt
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\User>git
'git' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\User>
```

User@MSI MINGW64 ~

\$ git

```
usage: git [-v | --version] [-h | --help] [-C <path>] [-c <name>=<value>]
          [--exec-path[=<path>]] [--html-path] [--man-path] [--info-path]
          [-p | --paginate | -P | --no-pager] [--no-replace-objects] [--bare]
          [--git-dir=<path>] [--work-tree=<path>] [--namespace=<name>]
          [--super-prefix=<path>] [--config-env=<name>=<envvar>]
          <command> [<args>]
```

These are common Git commands used in various situations:

start a working area (see also: git help tutorial)

clone	Clone a repository into a new directory
init	Create an empty Git repository or reinitialize an existing one

work on the current change (see also: git help everyday)

add	Add file contents to the index
mv	Move or rename a file, a directory, or a symlink
restore	Restore working tree files
rm	Remove files from the working tree and from the index

examine the history and state (see also: git help revisions)

bisect	Use binary search to find the commit that introduced a bug
--------	--

Bekerja dengan Git

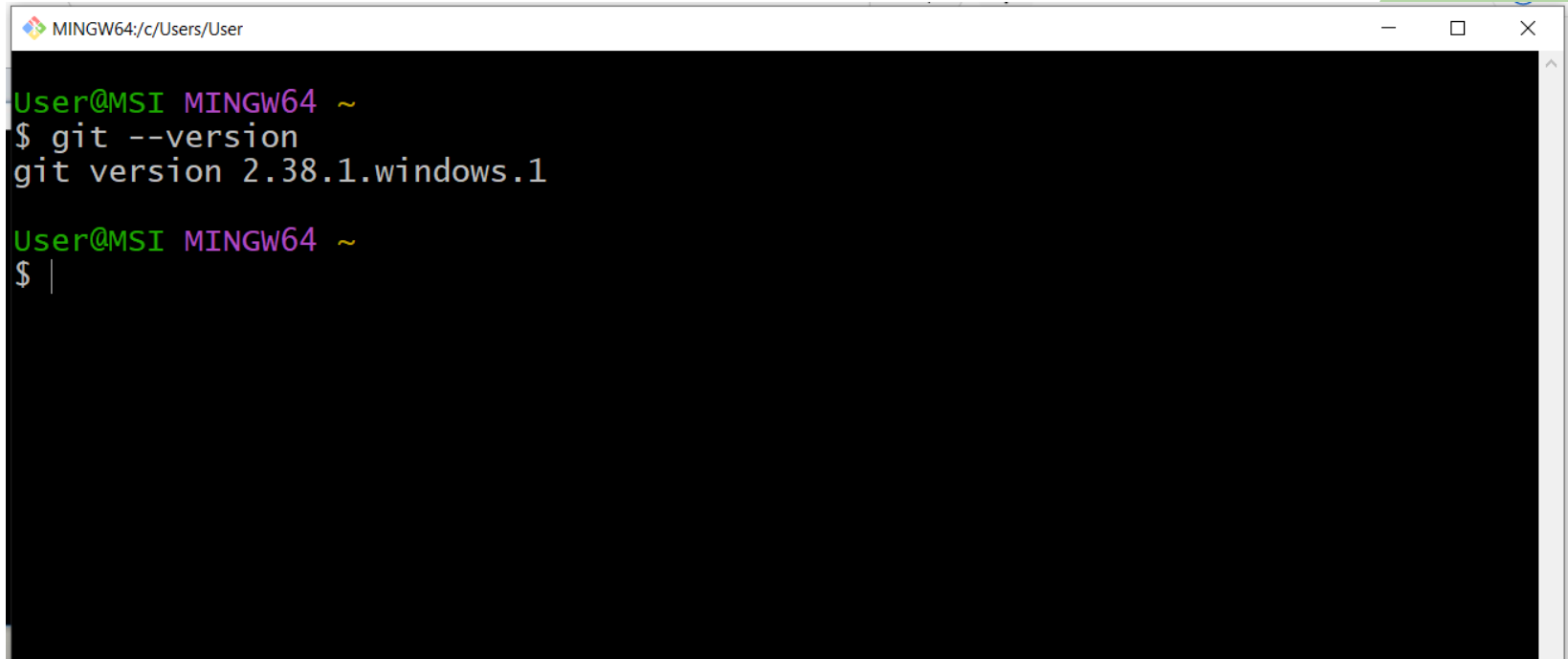


- Clear → membersihkan layar

A screenshot of a terminal window titled "MINGW64: c:/Users/User". The terminal has a black background. The prompt "User@MSI MINGW64 ~" is displayed in green and purple. Below the prompt, the command "\$ clear" is entered in white text, with a cursor at the end of the word "clear".

```
MINGW64: c:/Users/User
User@MSI MINGW64 ~
$ clear
```


Bekerja dengan Git

A screenshot of a Windows terminal window titled "MINGW64: c/Users/User". The terminal has a black background with green and white text. It shows the command "git --version" being entered and the output "git version 2.38.1.windows.1". The prompt "User@MSI MINGW64 ~" is visible at the start of each line.

```
MINGW64: c/Users/User

User@MSI MINGW64 ~
$ git --version
git version 2.38.1.windows.1

User@MSI MINGW64 ~
$ |
```

Bekerja dengan Git

```
Command Prompt
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\User>git
usage: git [-v | --version] [-h | --help] [-C <path>] [-c <name>=<value>]
      [--exec-path[=<path>]] [--html-path] [--man-path] [--info-path]
      [-p | --paginate | -P | --no-pager] [--no-replace-objects] [--bare]
      [--git-dir=<path>] [--work-tree=<path>] [--namespace=<name>]
      [--super-prefix=<path>] [--config-env=<name>=<envvar>]
      <command> [<args>]

These are common Git commands used in various situations:

start a working area (see also: git help tutorial)
  clone      Clone a repository into a new directory
  init       Create an empty Git repository or reinitialize an existing one

work on the current change (see also: git help everyday)
  add        Add file contents to the index
  mv         Move or rename a file, a directory, or a symlink
  restore    Restore working tree files
  rm         Remove files from the working tree and from the index

examine the history and state (see also: git help revisions)
  bisect     Use binary search to find the commit that introduced a bug
  diff       Show changes between commits, commit and working tree, etc
  grep       Print lines matching a pattern
  log        Show commit logs
  show       Show various types of objects
  status     Show the working tree status
```

Git Command



- `$ git init`
- `$ git add <file(s)>`
- `$ git status`
- `$ git commit`
- `$ git config`
- `$ git branch`
- `$ git help`

3 area pada repo Git

...

- **Working tree** : tempat bekerja
- **Staging area** : memberitahu git bahwa sudah melakukan perubahan
- **History** : perubahan akan dijadikan commit atau tidak

3 area pada repo Git

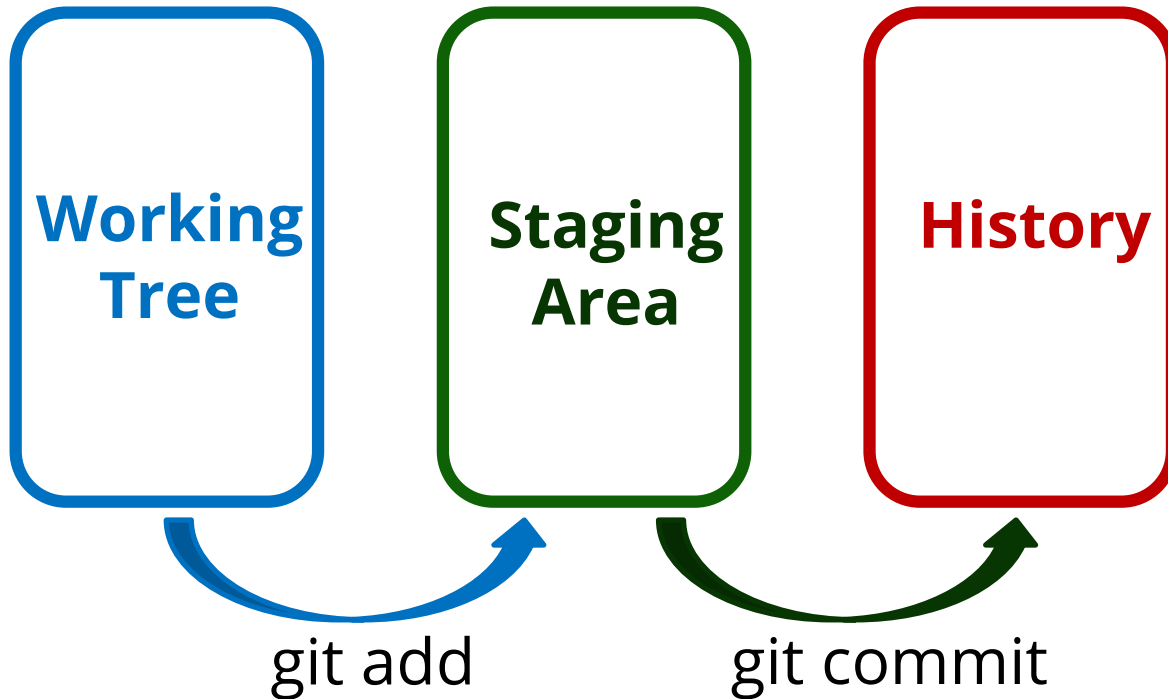
...

- Staging area
 - History
- } .git

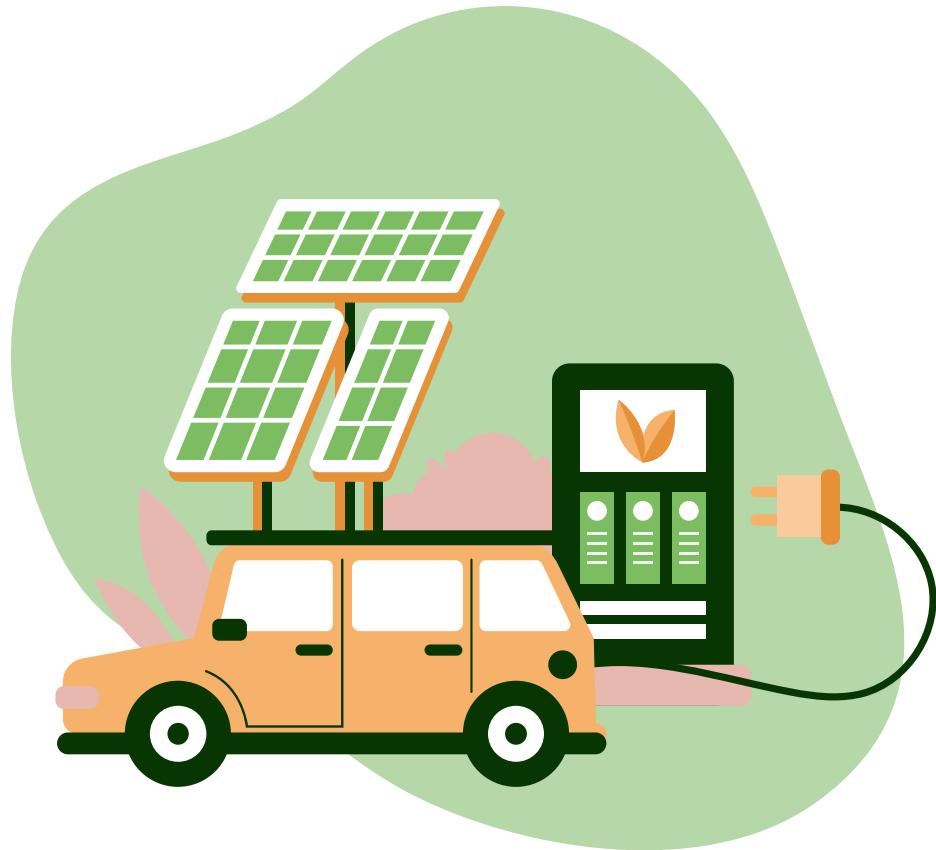


3 area pada repo Git

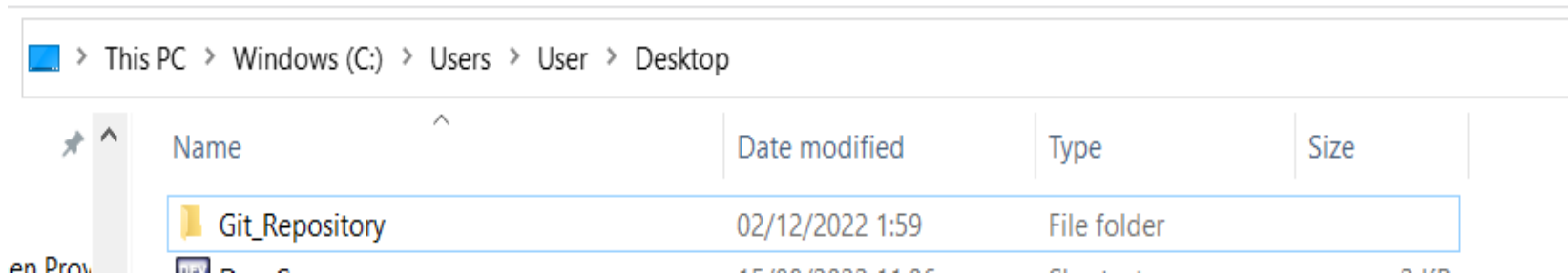
...



Let's try



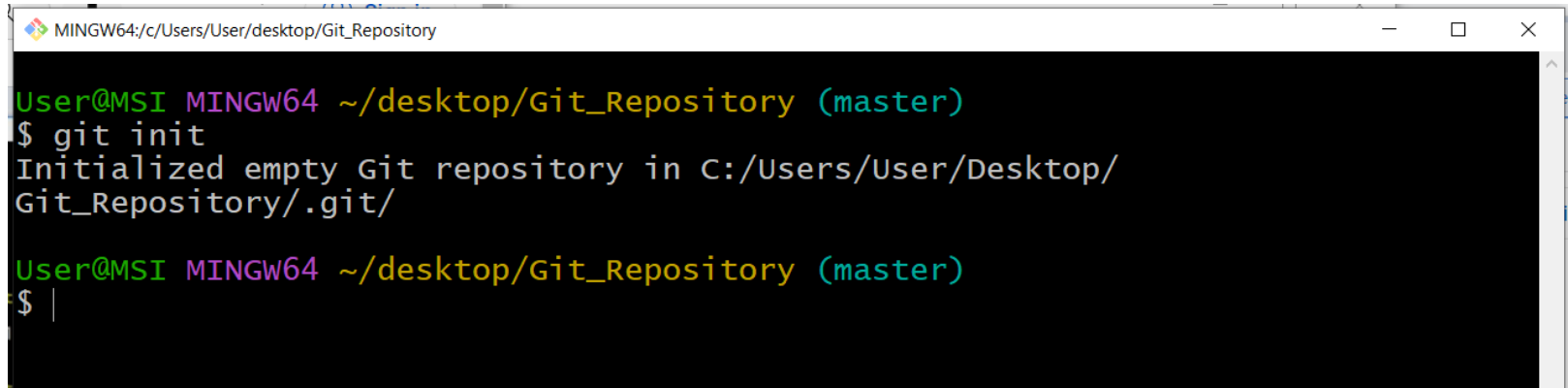
Membuat folder baru



Membuat folder baru



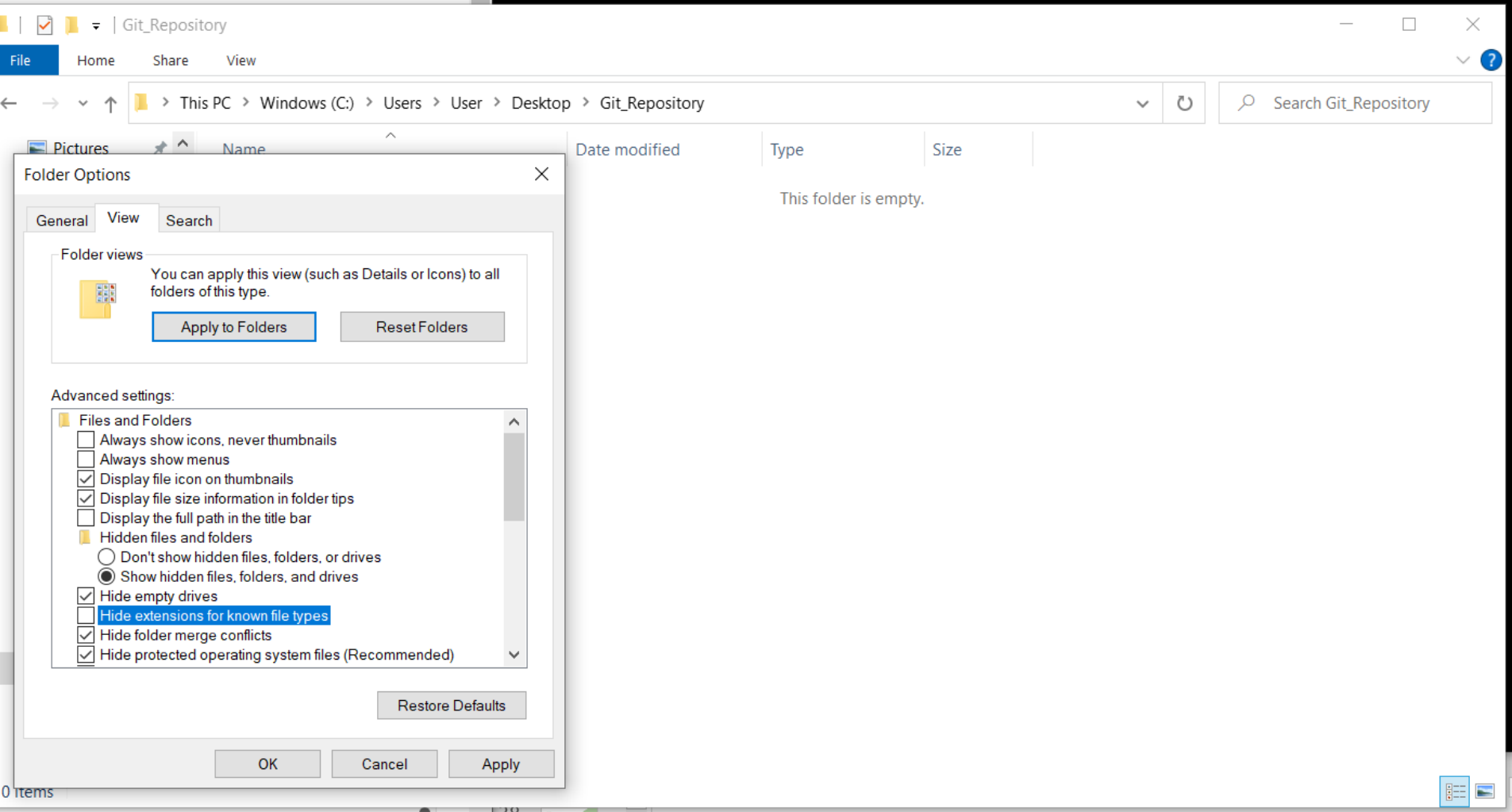
- Mengubah folder menjadi repo git
\$ git init

A screenshot of a Windows terminal window titled "MINGW64; c:/Users/User/desktop/Git_Repository". The terminal shows the execution of the "git init" command. The prompt is "User@MSI MINGW64 ~/desktop/Git_Repository (master)". The command entered is "\$ git init". The output is "Initialized empty Git repository in C:/Users/User/Desktop/Git_Repository/.git/". The prompt then changes to "User@MSI MINGW64 ~/desktop/Git_Repository (master)" and the next prompt "\$" is shown with a cursor.

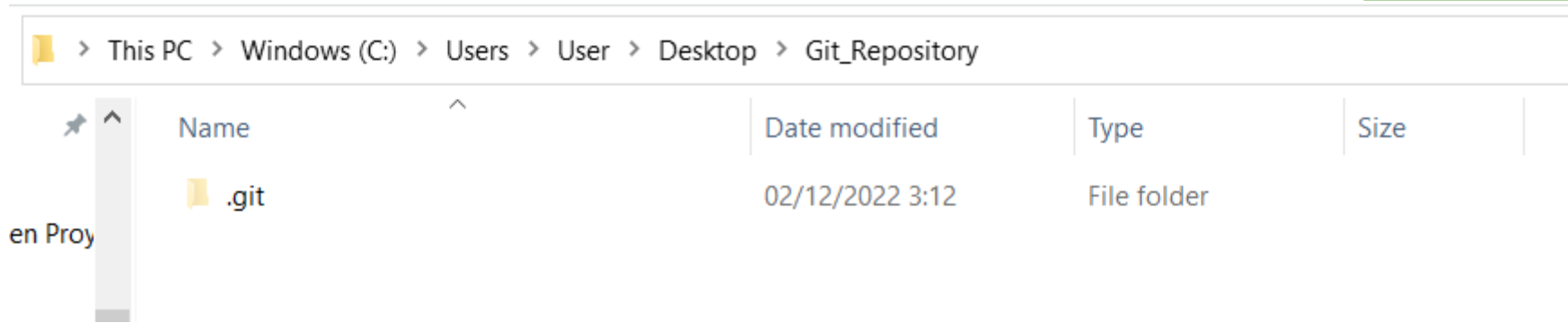
```
MINGW64; c:/Users/User/desktop/Git_Repository

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git init
Initialized empty Git repository in C:/Users/User/Desktop/Git_Repository/.git/

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ |
```



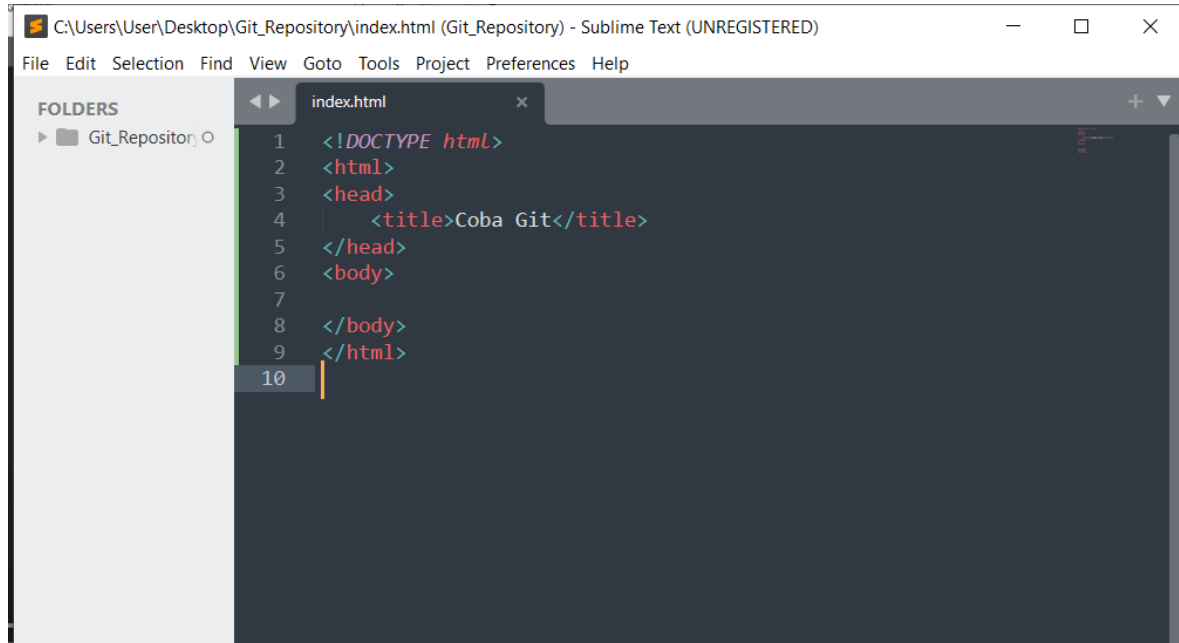
Membuat folder baru



.git menyimpan semua perubahan

Membuat file

- Buka code editor → halaman web sederhana



The screenshot shows a Sublime Text (UNREGISTERED) window editing a file named `index.html` located at `C:\Users\User\Desktop\Git_Repository\index.html`. The left sidebar shows the 'FOLDERS' panel with 'Git_Repository' expanded. The main editor area displays the following HTML code:

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Coba Git</title>
5 </head>
6 <body>
7
8 </body>
9 </html>
10
```

FOLDERS

▶ Git_Repository

index.html

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Coba Git</title>
5  </head>
6  <body>
7
8  </body>
9  </html>
10
```

User@MSI MINGW64 ~/desktop/Git_Repository (master)

\$ git init

Initialized empty Git repository in C:/Users/User/Desktop/
Git_Repository/.git/

User@MSI MINGW64 ~/desktop/Git_Repository (master)

\$ ls

index.html

User@MSI MINGW64 ~/desktop/Git_Repository (master)

\$ git status

On branch master

No commits yet

Untracked files:

(use "git add <file>..." to include in what will be committed)

index.html

nothing added to commit but untracked files present (use "git add" to track)

User@MSI MINGW64 ~/desktop/Git_Repository (master)

\$

Membuat file

...

- Commit bagi file index.html

```
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git add index.html
```

Membuat file



- Commit bagi file index.html

Menyimpan file index.html pada staging area

```
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   index.html
```


Membuat file

...

- Commit bagi file index.html

Menyimpan file index.html pada staging area

```
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   index.html
```

Membuat file



```
MINGW64~/c/Users/User/desktop/Git_Repository

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   index.html

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git commit
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 'User@MSI.(none)')

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$
```

● ● ●

-

```
MINGW64:/c/Users/User/desktop/Git_Repository
```

```
# Please enter the commit message for your changes. Lines starting  
# with '#' will be ignored, and an empty message aborts the commit.  
#  
# On branch master  
#  
# Initial commit  
#  
# Changes to be committed:  
#       new file:   index.html  
#  
~  
~  
~  
~  
~  
~  
~  
~  
~  
~  
~  
~  
~  
~  
  
.git/COMMIT_EDITMSG [unix] (04:20 02/12/2022)  
:q!
```

Membuat file



```
MINGW64:/c/Users/User/desktop/Git_Repository

Aborting commit due to empty commit message.

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git commit -m "Menambahkan file index.html"
[master (root-commit) 8ad03e8] Menambahkan file index.html
 1 file changed, 9 insertions(+)
 create mode 100644 index.html

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ |
```

Membuat perubahan pada file



C:\Users\User\Desktop\Git_Repository\style.css • (Git_Repository) - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

FOLDERS

- Git_Repository
 - index.html
 - /* style.css

```
1 body {  
2   font-family: arial;  
3 }  
4
```

Membuat perubahan pada file



```
MINGW64/c/Users/User/desktop/Git_Repository
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git status
On branch master
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:   index.html

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        style.css

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

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ |
```

Membuat perubahan pada file

...

- memindahkan semua file (hilang, ubah, nambah, edit) ke staging area

```
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git add .|
```

Membuat perubahan pada file

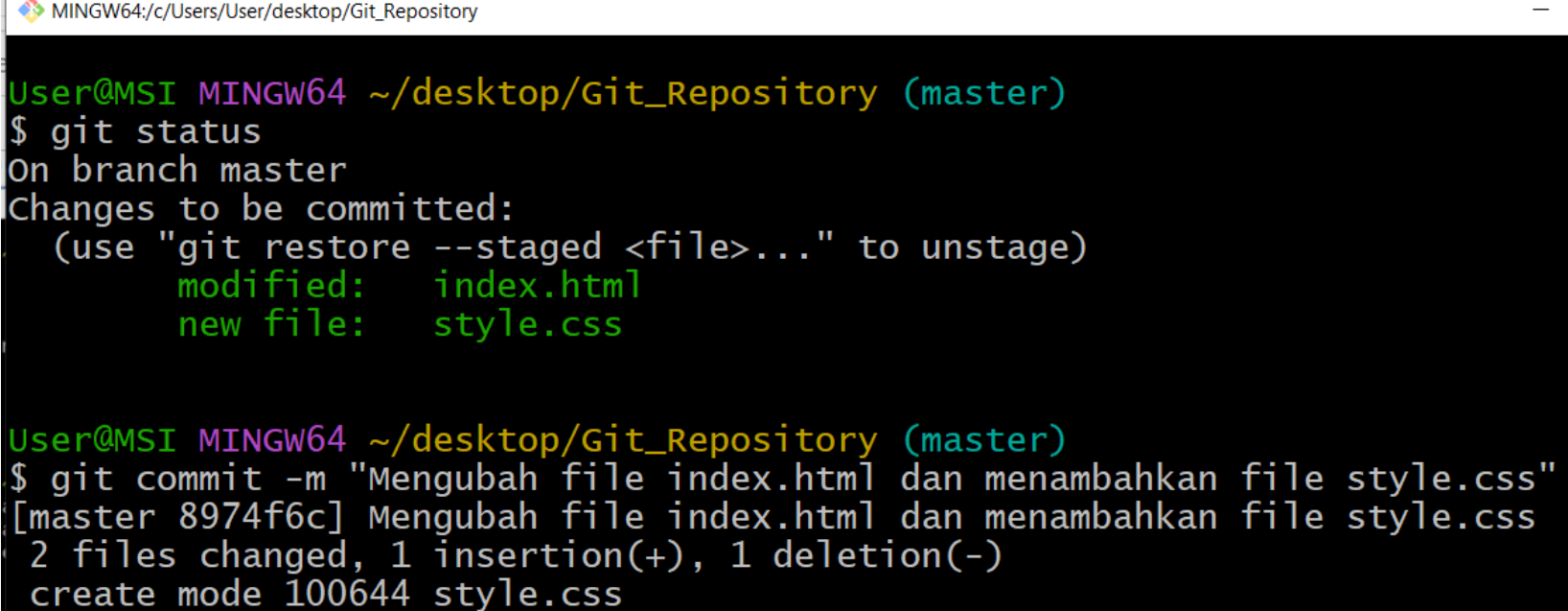


```
MINGW64:/c/Users/User/desktop/Git_Repository

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   index.html
        new file:   style.css

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ |
```


Membuat perubahan pada file

- 

```
MINGW64:/c/Users/User/desktop/Git_Repository

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   index.html
    new file:   style.css

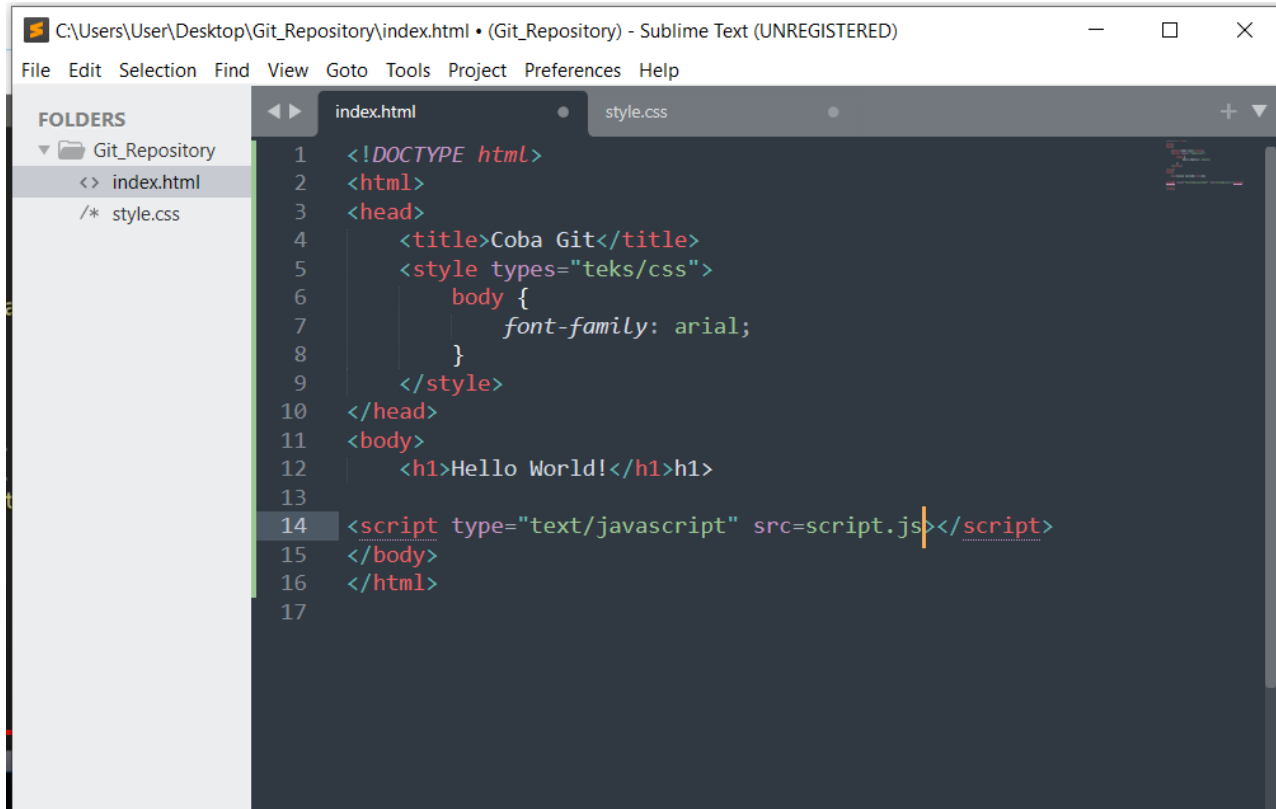
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git commit -m "Mengubah file index.html dan menambahkan file style.css"
[master 8974f6c] Mengubah file index.html dan menambahkan file style.css
 2 files changed, 1 insertion(+), 1 deletion(-)
 create mode 100644 style.css
```

Membuat perubahan pada file



- Misal mau edit file index.html dengan menggabungkan file .css dan menghapus file style.css

Membuat perubahan pada file

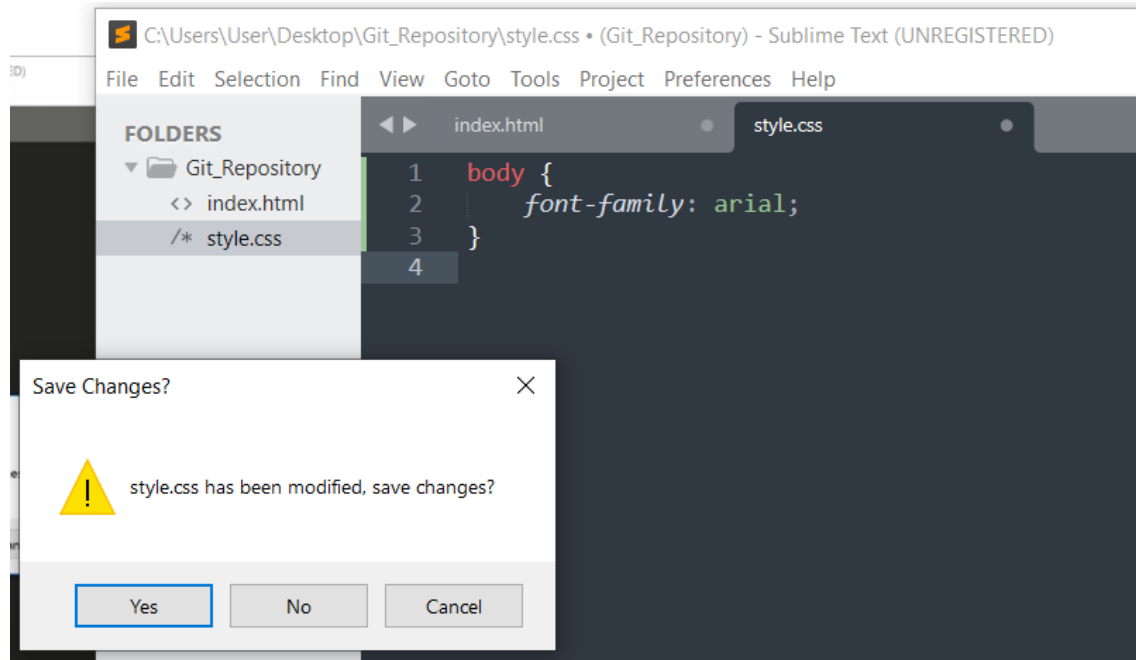


The screenshot shows the Sublime Text editor interface. The title bar indicates the file path is C:\Users\User\Desktop\Git_Repository\index.html and the editor is Sublime Text (UNREGISTERED). The menu bar includes File, Edit, Selection, Find, View, Goto, Tools, Project, Preferences, and Help. The left sidebar shows the 'FOLDERS' panel with the 'Git_Repository' folder expanded, listing 'index.html' and '/* style.css'. The main editor area displays the content of 'index.html' with line numbers 1 through 17. The code is as follows:

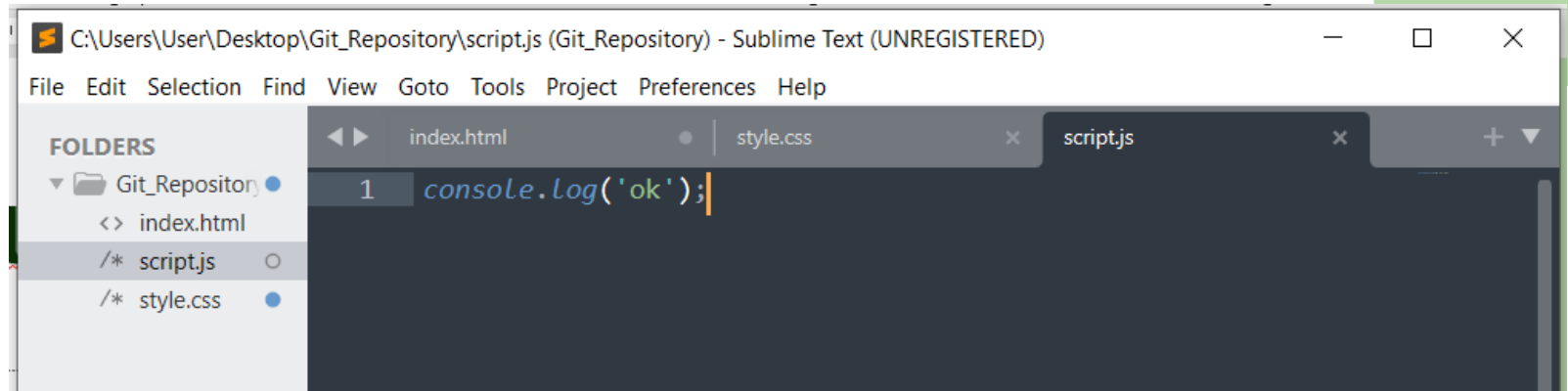
```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Coba Git</title>
5   <style types="teks/css">
6     body {
7       font-family: arial;
8     }
9   </style>
10 </head>
11 <body>
12   <h1>Hello World!</h1>h1>
13
14 <script type="text/javascript" src=script.js></script>
15 </body>
16 </html>
17
```

Membuat perubahan pada file

- Delete file syle.css



Membuat perubahan pada file



Membuat perubahan pada file



```
MINGW64/c/Users/User/desktop/Git_Repository
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    style.css

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        script.js

no changes added to commit (use "git add" and/or "git commit -a")
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ |
```

Membuat perubahan pada file

...

```
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git add .
```

```
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git commit -m "Melakukan perubahan pada index.html, delete file style.css dan m
enambahkan file script.js"
[master 08854bd] Melakukan perubahan pada index.html, delete file style.css dan m
enambahkan file script.js
2 files changed, 1 insertion(+)
create mode 100644 script.js
delete mode 100644 style.css
```

Membuat perubahan pada file



```
MINGW64:/c/Users/User/desktop/Git_Repository

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git status
On branch master
nothing to commit, working tree clean

User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ |
```


Membuat perubahan pada file

- Untuk melihat apa saja yang sudah dikerjakan

```
MINGW64~/c/Users/User/desktop/Git_Repository
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git log
commit 08854bd4f251eee85cffe3b8256a1367cac91cf0 (HEAD -> master)
Author: BrendaWinarko <windakerja22@gmail.com>
Date:   Fri Dec 2 04:56:29 2022 +0700

    Melakukan perubahan pada index.html, delete file style.css dan menambahkan file script.js

commit 8974f6cb9d19c345be87722e2031fde4dc054e34
Author: BrendaWinarko <windakerja22@gmail.com>
Date:   Fri Dec 2 04:38:59 2022 +0700

    Mengubah file index.html dan menambahkan file style.css

commit 8ad03e826c1265538e1bec661e22c3aeab4364d7
Author: BrendaWinarko <windakerja22@gmail.com>
Date:   Fri Dec 2 04:22:00 2022 +0700

    Menambahkan file index.html
```

Membuat perubahan pada file

- Untuk melihat beberapa commit saja, misal 2 commit terakhir

```
MINGW64:/c:/Users/User/desktop/Git_Repository
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git log -2
commit 08854bd4f251eee85cffe3b8256a1367cac91cf0 (HEAD -> master)
Author: BrendaWinarko <windakerja22@gmail.com>
Date: Fri Dec 2 04:56:29 2022 +0700

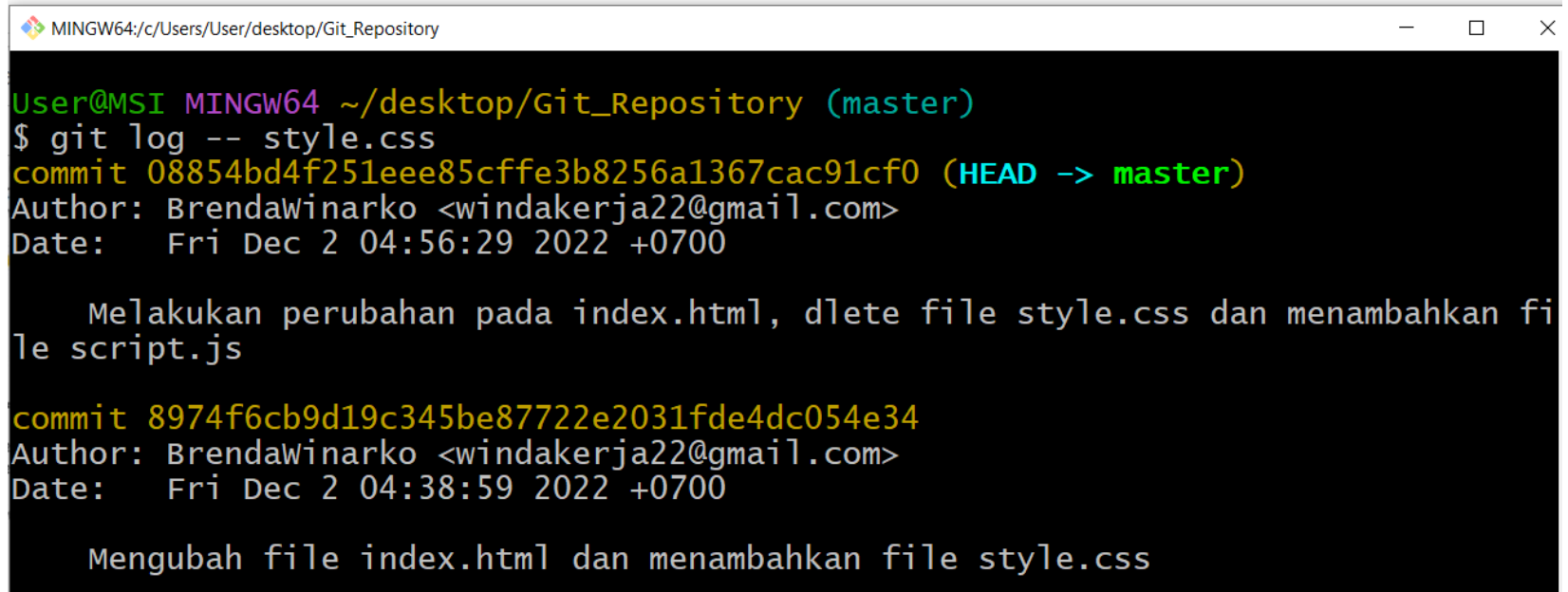
    Melakukan perubahan pada index.html, delete file style.css dan menambahkan file script.js

commit 8974f6cb9d19c345be87722e2031fde4dc054e34
Author: BrendaWinarko <windakerja22@gmail.com>
Date: Fri Dec 2 04:38:59 2022 +0700

    Mengubah file index.html dan menambahkan file style.css
```

Membuat perubahan pada file

- Untuk melihat perubahan suatu file



The screenshot shows a Windows terminal window titled "MINGW64:/c/Users/User/desktop/Git_Repository". The terminal displays the output of the command `git log -- style.css`. It shows two commits. The first commit, with hash `08854bd4f251eee85cffe3b8256a1367cac91cf0`, is labeled `(HEAD -> master)` and describes changes to `index.html`, deletion of `style.css`, and addition of `script.js`. The second commit, with hash `8974f6cb9d19c345be87722e2031fde4dc054e34`, describes changes to `index.html` and addition of `style.css`. The terminal text is as follows:

```
MINGW64:/c/Users/User/desktop/Git_Repository
User@MSI MINGW64 ~/desktop/Git_Repository (master)
$ git log -- style.css
commit 08854bd4f251eee85cffe3b8256a1367cac91cf0 (HEAD -> master)
Author: BrendaWinarko <windakerja22@gmail.com>
Date:   Fri Dec 2 04:56:29 2022 +0700

    Melakukan perubahan pada index.html, dlete file style.css dan menambahkan fi
le script.js

commit 8974f6cb9d19c345be87722e2031fde4dc054e34
Author: BrendaWinarko <windakerja22@gmail.com>
Date:   Fri Dec 2 04:38:59 2022 +0700

    Mengubah file index.html dan menambahkan file style.css
```

Membuat perubahan pada file

...

- Mengembalikan file yang sudah dihapus

```
User@MSI MINGW64 ~/desktop/Git_Repository ((8974f6c...))  
$ git checkout 8974f -- style.css
```

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Thanks!



Do you have any questions?

