

Họ và tên: Lê Nguyễn Thê Khoa

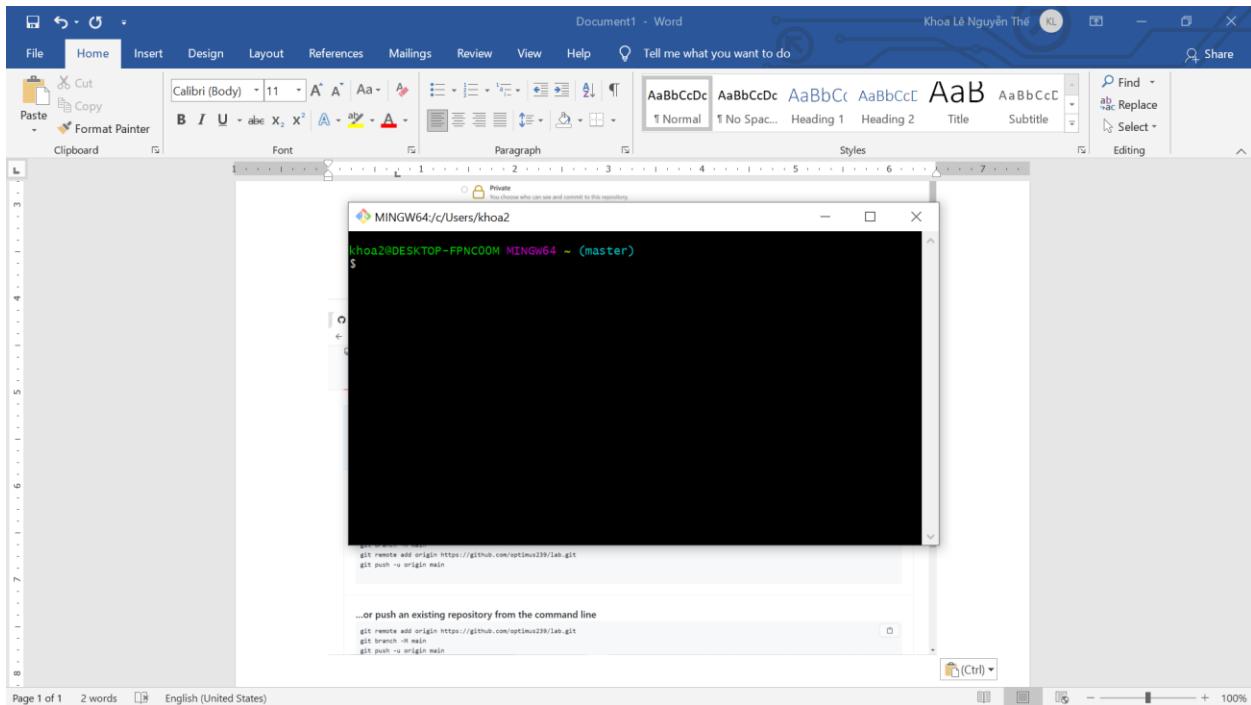
MSSV: 1816060002

Lớp: 18LDTHA1

Lab: GIT

Sử dụng Git Bash để thực hiện.

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



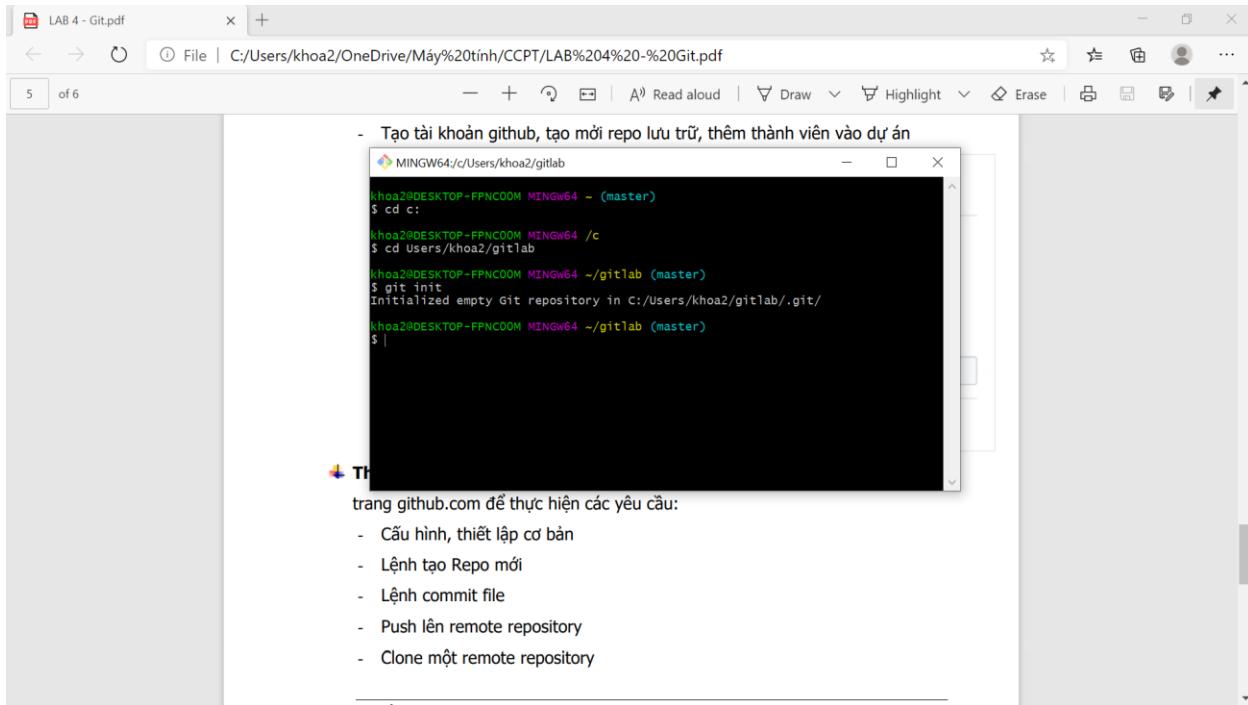
Tạo repository

The screenshot shows the GitHub interface for creating a new repository. At the top, it says "Create a new repository". Below that, it asks if you already have a project repository elsewhere and provides a link to "Import a repository". The "Owner" field is set to "optimus239" and the "Repository name" field is "lab". A note suggests using short and memorable names like "ideal-octo-lamp". The "Description (optional)" field contains "Lab4". The "Visibility" section shows "Public" is selected, with a note that anyone on the internet can see the repository. The "Initialize this repository with:" section includes options for "Add a README file", "Add .gitignore", and "Choose a license", all of which are currently unselected.

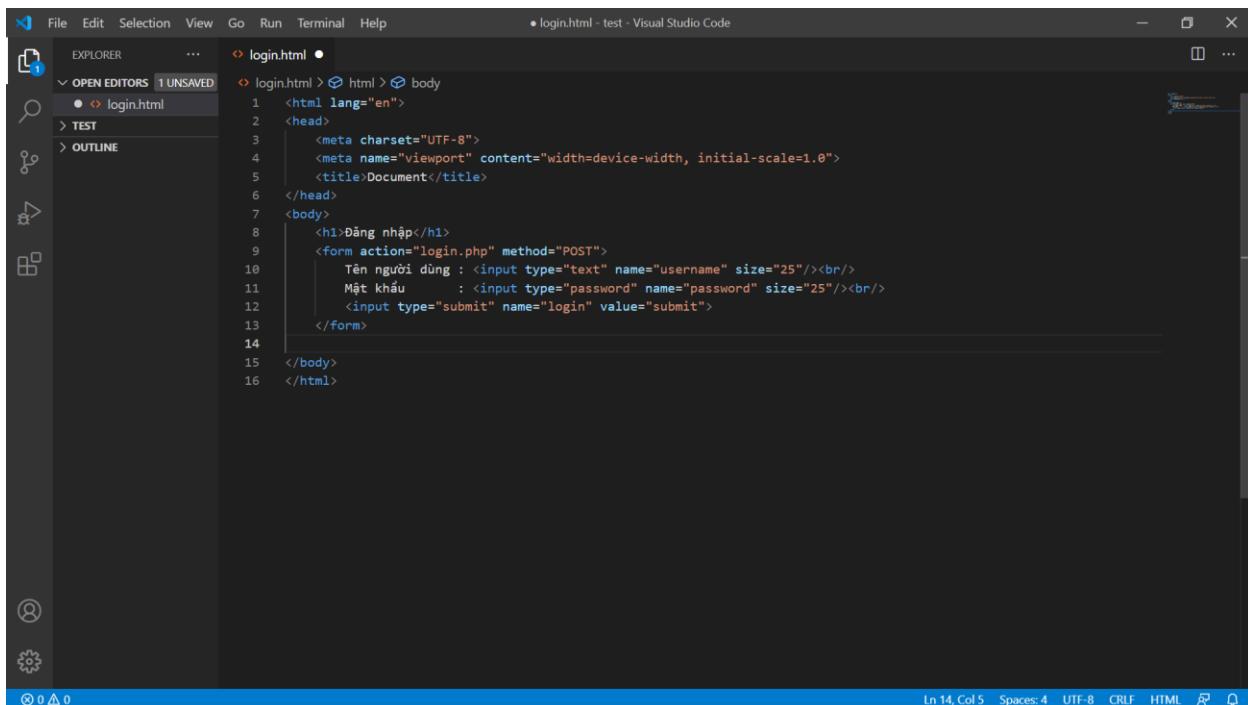
Thực hiện các bước hướng dẫn sau đây để tạo cho mình một repository và push thử 1 file lên

The screenshot shows the GitHub repository page for "optimus239/lab". The repository has 1 unwatched star and 0 forks. The "Code" tab is selected. A "Quick setup" section at the top provides links for "Set up in Desktop" (via HTTPS or SSH), the repository URL ("https://github.com/optimus239/lab.git"), and instructions to start by creating a new file or uploading an existing one. It also recommends including a README, LICENSE, and .gitignore. Below this, there are sections for "...or create a new repository on the command line" and "...or push an existing repository from the command line", each containing a code snippet with a copy button.

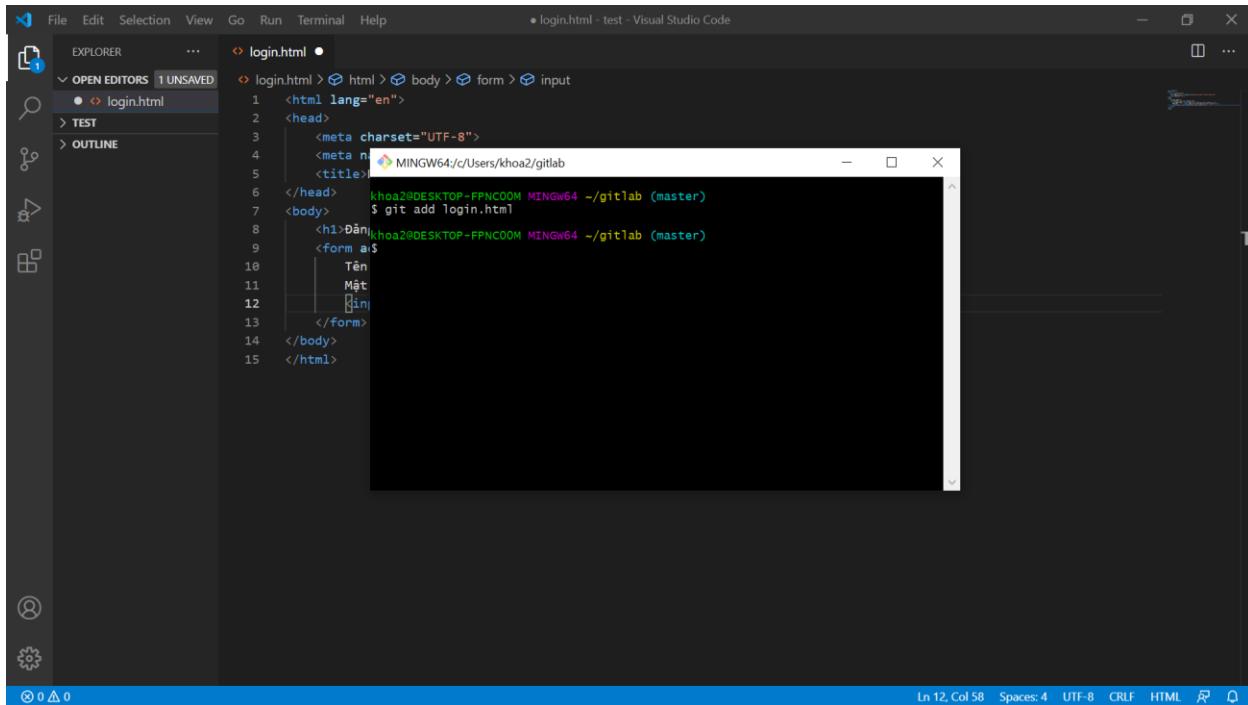
Lệnh git init để tạo mới repository



File login.html dung để push thử

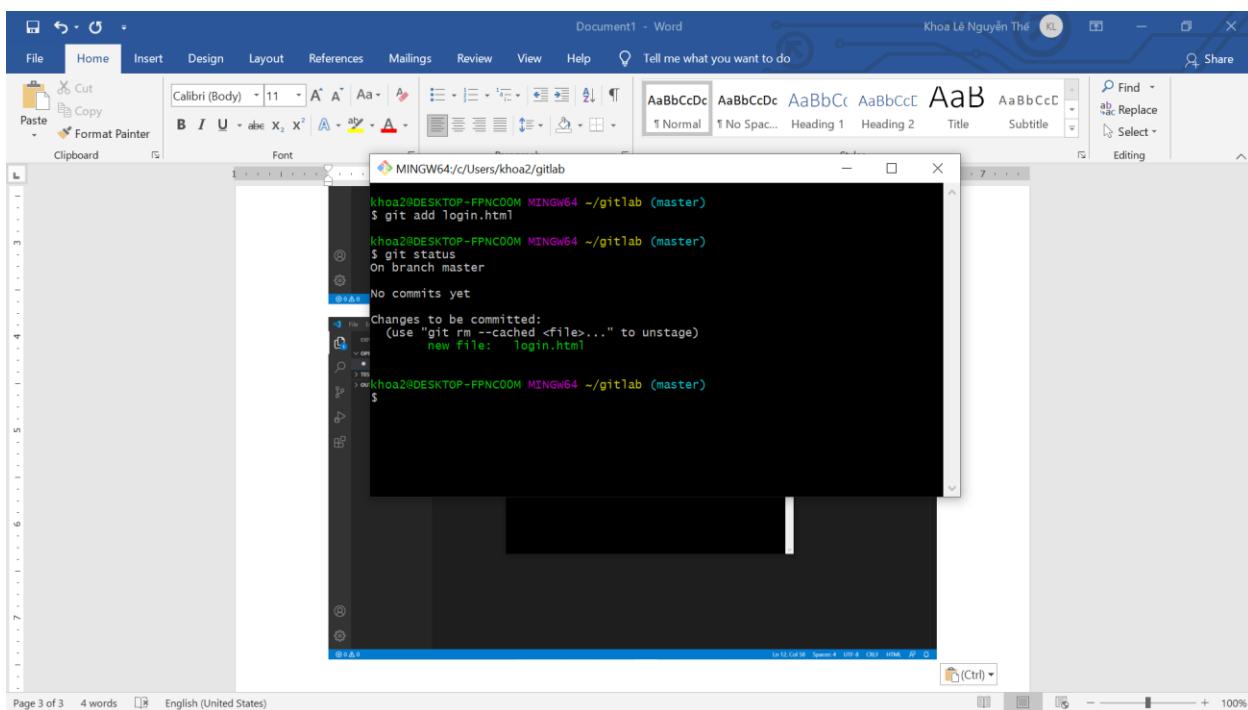


Lệnh git add dung để đưa file vào hàng chờ



```
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Login</title>
</head>
<body>
<h1>Đăng Nhập</h1>
<form action="#" method="post">
    Tên: <input type="text" name="username">
    Mật khẩu: <input type="password" name="password">
    </form>
</body>
</html>
```

Kiểm tra trạng thái



```
khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master)
$ git add login.html

khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master)
$ git status
On branch master

No commits yet

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

khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master)
$
```

Sau khi add file thì phải sử dụng lệnh git commit

The screenshot shows the Visual Studio Code interface. In the Explorer sidebar, there is one unsaved file named 'login.html'. The main code editor shows the HTML code for a login form. A terminal window is open at the bottom, displaying the following command sequence:

```
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git add login.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git status
On branch master
  nothing to commit, working directory clean
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git commit -m "Add login.html file"
[master (root-commit) 5051239] Add login.html file
  1 file changed, 16 insertions(+)
  create mode 100644 login.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$
```

The status bar at the bottom indicates 'Ln 12, Col 58' and 'Spaces: 4, CRLF, HTML'.

Git remote add origin Hướng đến đúng đường dẫn như trong hướng dẫn của git

The screenshot shows a browser window for GitHub. The URL is 'github.com/optimus239/lab'. The page provides instructions for creating a new repository or pushing an existing one. It includes a terminal window showing the command sequence:

```
...or create a new repository on the command line
echo "# lab" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/optimus239/lab.git
git push -u origin main

...or push an existing repository from ...
git remote add origin https://github.com/optimus239/lab.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

ProTip! Use the URL for this page when adding GitHub as a remote.
```

The terminal window shows the following output:

```
MINGW64:/c/Users/khoa2/gitlab
$ git add login.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git status
On branch master
  nothing to commit, working directory clean
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git commit -m "Add login.html file"
[master (root-commit) 5051239] Add login.html file
  1 file changed, 16 insertions(+)
  create mode 100644 login.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git remote add origin https://github.com/optimus239/lab.git
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git push -u origin main
[origin master] 5051239 Add login.html file
  1 file changed, 16 insertions(+)
  create mode 100644 login.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
```

Sau cùng là git push để push file lên

The screenshot shows the Visual Studio Code interface with the terminal tab active. The terminal window displays the following command and its execution:

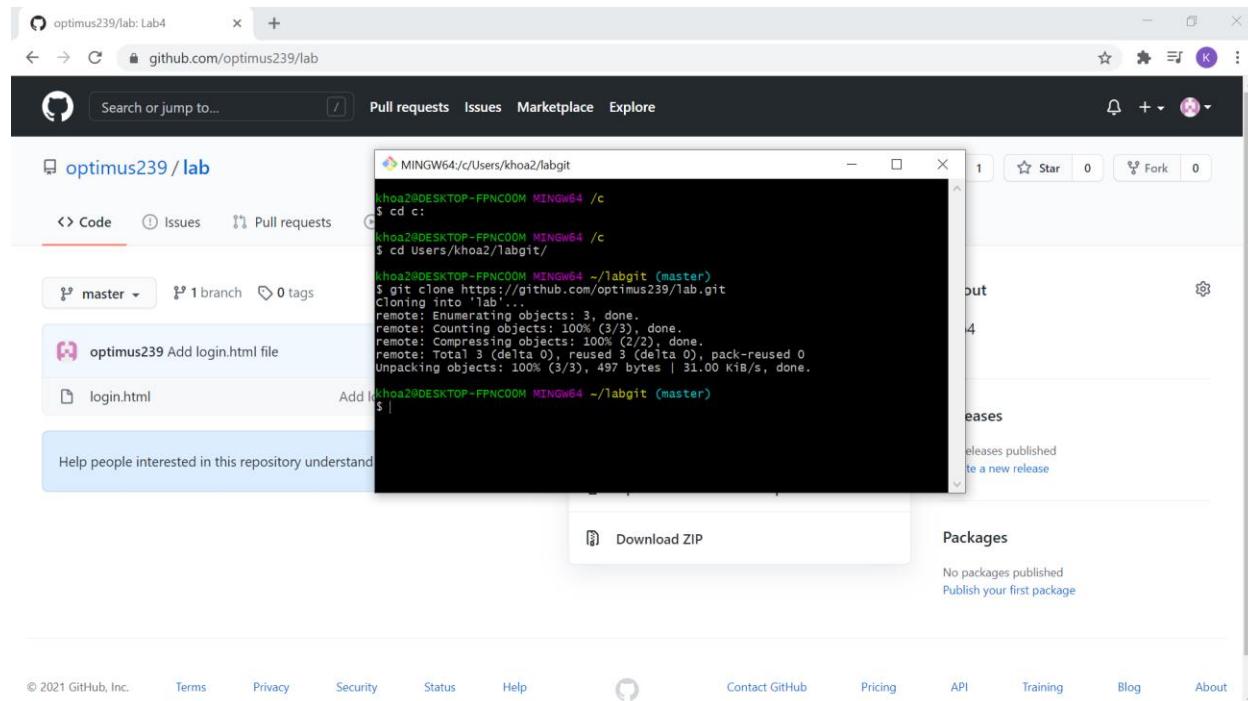
```
khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master)
$ git commit -m "Add login.html file"
[master (root-commit) 5051239] Add login.html file
 1 file changed, 16 insertions(+)
$ git push -u origin master
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 517 bytes | 517.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/optimus239/lab.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master)
$ |
```

The status bar at the bottom indicates: Line 12, Col 58, Spaces: 4, UTF-8, CRLF, HTML.

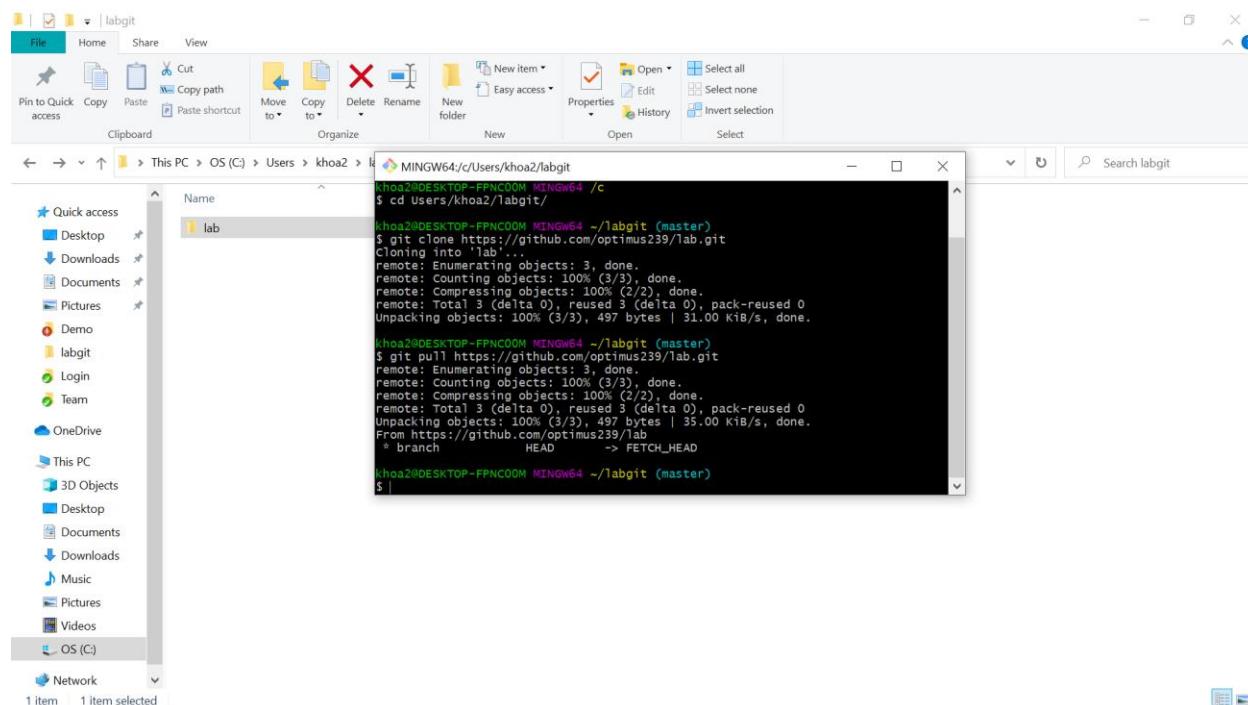
File sau khi đã được push

The screenshot shows a GitHub repository page for 'optimus239 / lab'. The repository has 1 branch and 0 tags. A recent commit by 'optimus239' titled 'Add login.html file' is visible, pushed 4 minutes ago. The commit message is 'Add login.html file'. Below the commit, there is a note: 'Help people interested in this repository understand your project by adding a README.' with a 'Add a README' button. The right sidebar shows sections for 'About' (Lab4), 'Releases' (No releases published, Create a new release), and 'Packages' (No packages published, Publish your first package). The footer includes links for GitHub's terms, privacy, security, status, help, contact, pricing, API, training, blog, and about.

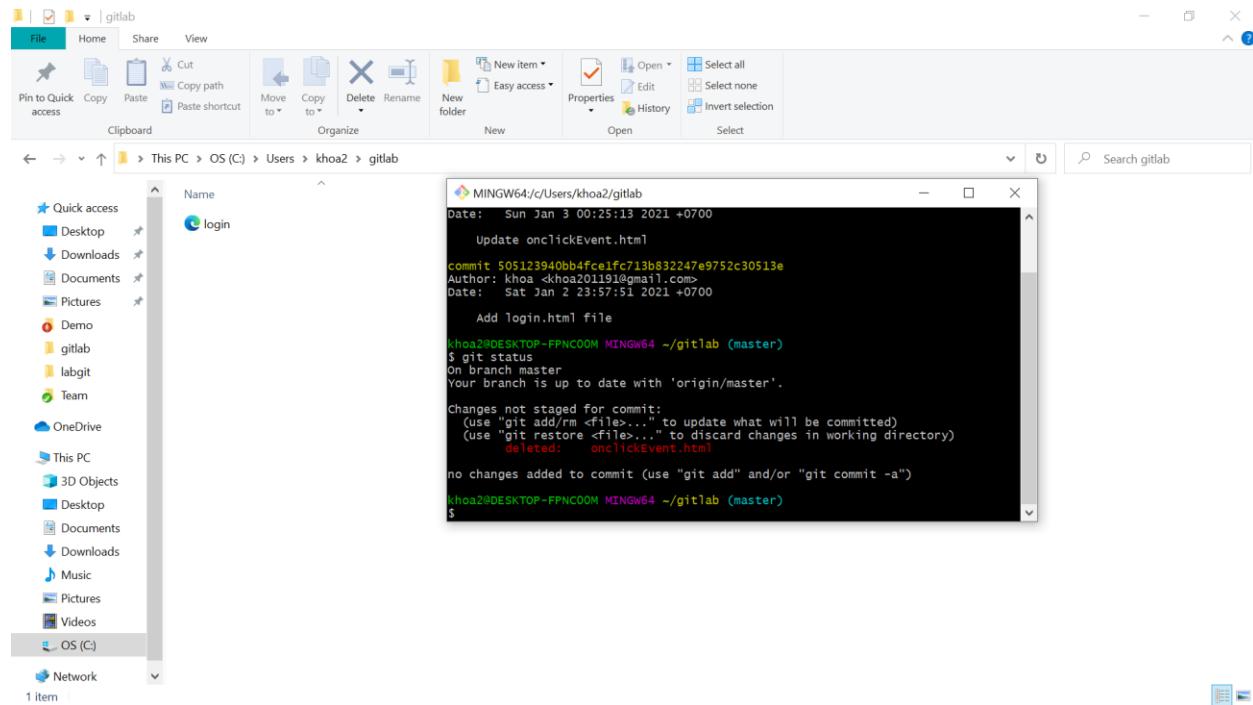
Git clone dung để clone file về máy



Sau khi đã clone về và có file ở máy. Sau này chúng ta phải thao tác git pull để cập nhật



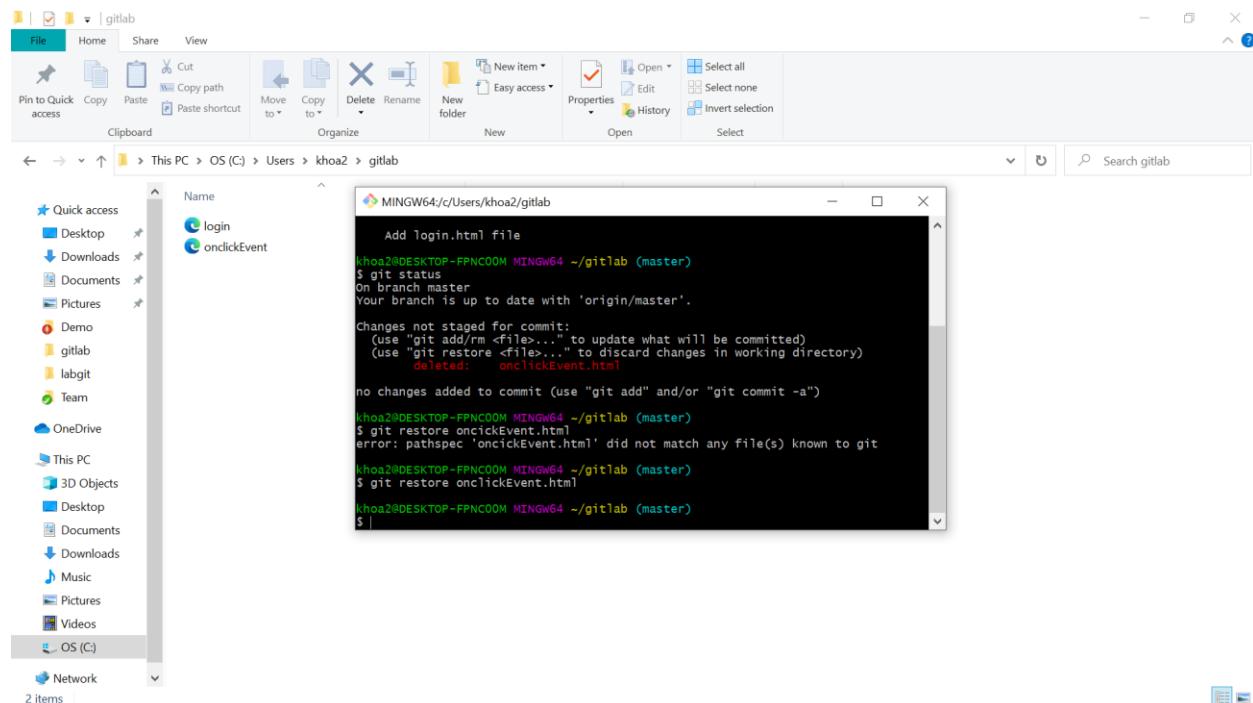
Giả sử ta xóa file onclickEvent.html và muốn phục hồi lại



The screenshot shows a Windows File Explorer window with the path "This PC > OS (C) > Users > khoa2 > gitlab". A file named "onclickEvent.html" is listed in the center pane, with a small red X icon indicating it has been deleted. The left sidebar shows standard folder icons like Desktop, Downloads, and Pictures. The top ribbon has tabs for File, Home, Share, and View.

```
MINGW64:/c/Users/khoa2/gitlab
Date: Sun Jan 3 00:25:13 2021 +0700
Update onclickEvent.html
commit 505123940bb4fc1fc713b832247e9752c30513e
Author: khoa <khoa201191@gmail.com>
Date: Sat Jan 2 23:57:51 2021 +0700
Add login.html file
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git status
On branch master
Your branch is up to date with 'origin/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: onclickEvent.html
no changes added to commit (use "git add" and/or "git commit -a")
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$
```

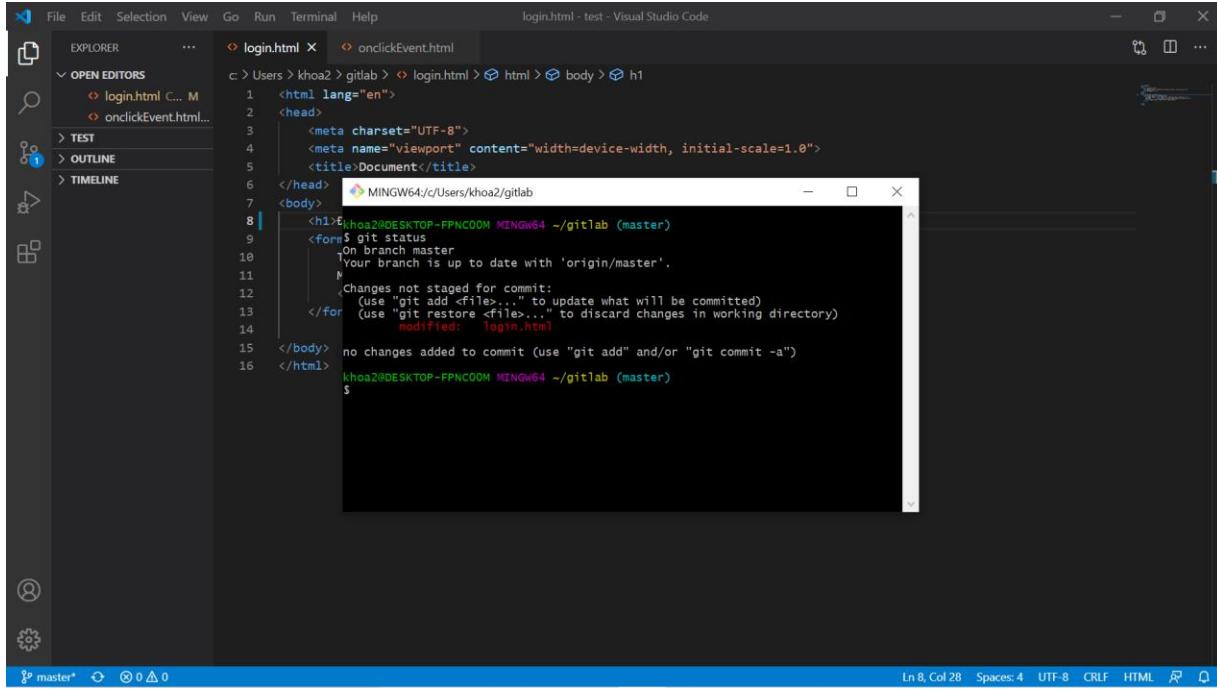
Dùng lệnh git status kiểm tra trạng thái và sử dụng lệnh git restore để hồi phục file



The screenshot shows a Windows File Explorer window with the same path as the previous one. Now, both "login.html" and "onclickEvent.html" files are listed in the center pane. The left sidebar and top ribbon are identical to the first screenshot.

```
MINGW64:/c/Users/khoa2/gitlab
Add login.html file
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git status
On branch master
Your branch is up to date with 'origin/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: onclickEvent.html
no changes added to commit (use "git add" and/or "git commit -a")
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git restore onclickEvent.html
error: pathspec 'onclickEvent.html' did not match any file(s) known to git
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git restore onclickEvent.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$
```

Giả sử ta thay đổi nội dung trong file login.html. Sử dụng lệnh git status để kiểm tra trạng thái sẽ có thông báo sự thay đổi file login.html

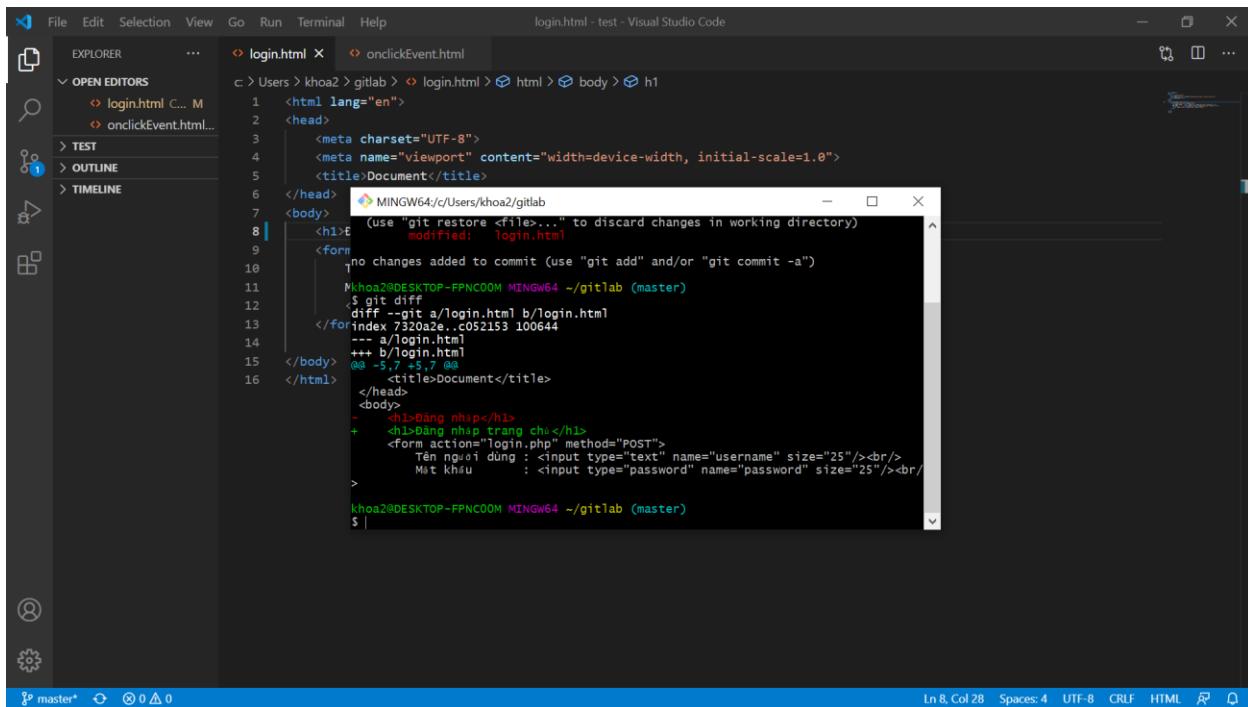


The screenshot shows the Visual Studio Code interface with the terminal tab active. The terminal window displays the command 'git status' being run in a Git repository named 'gitlab'. The output shows that the 'master' branch is up-to-date with 'origin/master', and there are no changes staged for commit. The command 'git commit -a' is mentioned as a way to add changes to the commit.

```
login.html - test - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER OPEN EDITORS TEST OUTLINE TIMELINE
login.html x onclickEvent.html
c > Users > khoa2 > gitlab > login.html > html > body > h1
1 <html lang="en">
2 <head>
3   <meta charset="UTF-8">
4   <meta name="viewport" content="width=device-width, initial-scale=1.0">
5   <title>Document</title>
6 </head>
7 <body>
8   <h1>khoa2@DESKTOP-FPNCOM MINGW64 ~/gitlab (master)
9   <form> git status
10  <!-- on branch master
11  --> your branch is up to date with 'origin/master'.
12
13  Changes not staged for commit:
14    (use "git add <file>..." to update what will be committed)
15    (use "git restore <file>..." to discard changes in working directory)
16      modified:   Login.html
17
18 </body>
19 </html>
khoa2@DESKTOP-FPNCOM MINGW64 ~/gitlab (master)
$
```

Ln 8, Col 28 Spaces: 4 UTF-8 CRLF HTML ⚡

Dùng lệnh git diff để kiểm tra thay đổi trong file login.html

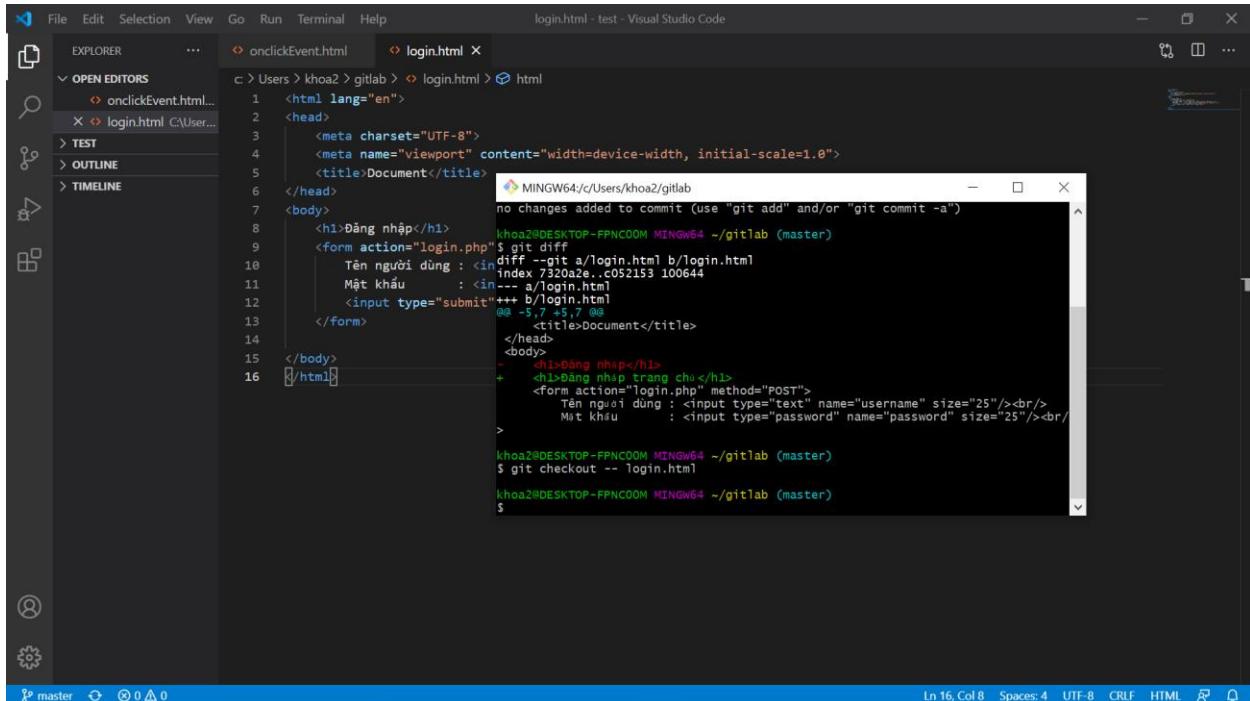


The screenshot shows the Visual Studio Code interface with the terminal tab active. The terminal window displays the command 'git diff' being run in a Git repository named 'gitlab'. The output shows the differences between the current state of the 'login.html' file and its previous version. The changes include the addition of a new input field for password.

```
login.html - test - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER OPEN EDITORS TEST OUTLINE TIMELINE
login.html x onclickEvent.html
c > Users > khoa2 > gitlab > login.html > html > body > h1
1 <html lang="en">
2 <head>
3   <meta charset="UTF-8">
4   <meta name="viewport" content="width=device-width, initial-scale=1.0">
5   <title>Document</title>
6 </head>
7 <body>
8   <h1>(use "git restore <file>..." to discard changes in working directory)
9   <form> modified:   Login.html
10
11  T
12  M
13  $ git diff
14  <for index a/20a2e c052153 100644
15  <-- a/login.html
16  <+ b/login.html
17  @@ -5,7 +5,7 @@
18
19 </body>
20 </html>
21 <title>Document</title>
22 </head>
23 <body>
24   <h1>Đăng nhập</h1>
25   <h1>Đăng nhập trang chủ</h1>
26   <form action="Login.php" method="POST">
27     Tên người dùng : <input type="text" name="username" size="25"/><br/>
28     Mật khẩu : <input type="password" name="password" size="25"/><br/>
29
30
31 </form>
32
33 </body>
34 </html>
khoa2@DESKTOP-FPNCOM MINGW64 ~/gitlab (master)
$ |
```

Ln 8, Col 28 Spaces: 4 UTF-8 CRLF HTML ⚡

Sử dụng lệnh git checkout – login.html để thay đổi file dưới local thành phiên bản trên repository



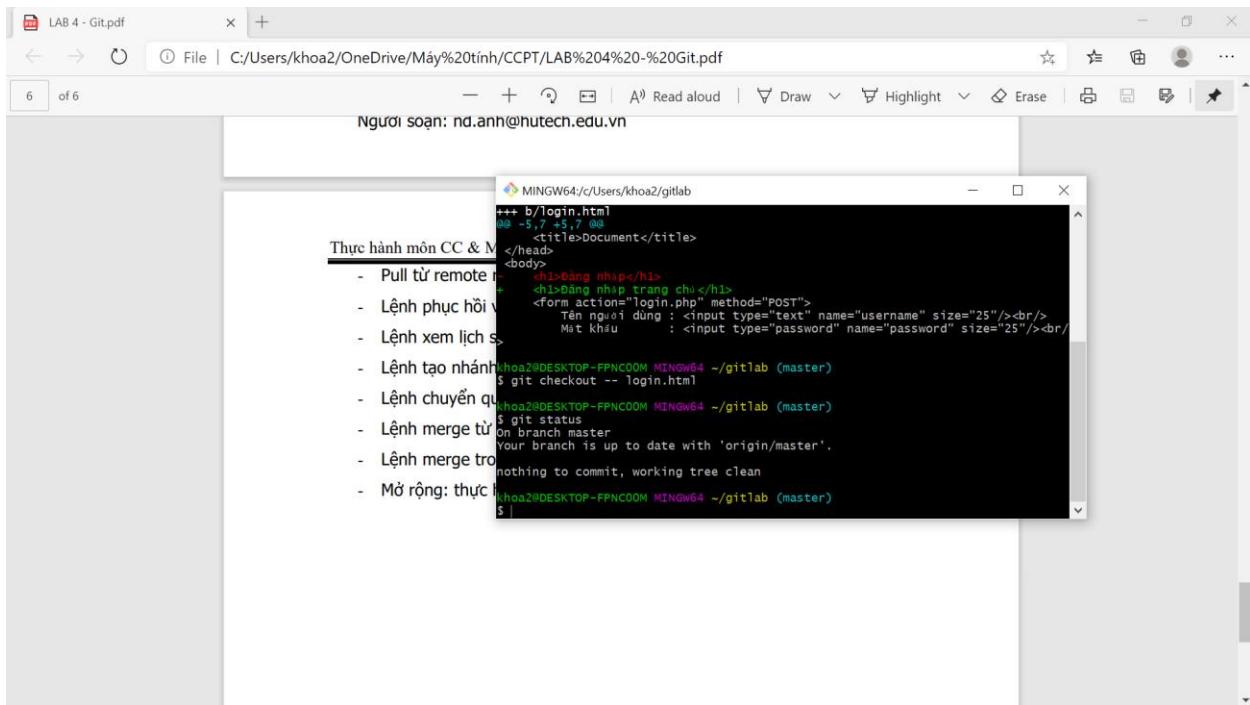
The screenshot shows the Visual Studio Code interface. In the Explorer sidebar, there are files: onclickEvent.html, login.html, and login.html (C:\User...). The main editor shows the content of login.html:

```
c > Users > khoa2 > gitlab > login.html > login.html
1 <html lang="en">
2 <head>
3   <meta charset="UTF-8">
4   <meta name="viewport" content="width=device-width, initial-scale=1.0">
5   <title>Document</title>
6 </head>
7 <body>
8   <h1>Đăng nhập:</h1>
9   <form action="login.php" method="POST">
10    Tên người dùng : <input type="text" name="username" size="25"/><br/>
11    Mật khẩu : <input type="password" name="password" size="25"/><br/>
12    <input type="submit" value="Đăng nhập" />
13  </form>
14  </body>
15 </html>
```

The terminal at the bottom shows the command history:

```
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git diff --staged
diff --git a/login.html b/login.html
--- a/login.html
+++ b/login.html
@@ -5,7 +5,7 @@
<h1>Đăng nhập trang chủ:</h1>
<form action="login.php" method="POST">
  Tên người dùng : <input type="text" name="username" size="25"/><br/>
  Mật khẩu : <input type="password" name="password" size="25"/><br/>
</form>
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git checkout -- login.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$
```

Dùng lệnh git status kiểm tra trạng thái



The screenshot shows a Microsoft Edge browser window displaying a PDF file titled "LAB 4 - Git.pdf". The PDF content includes a list of tasks related to Git usage.

Người soạn: nd.anh@hutech.edu.vn

Thực hành môn CC & M

- Pull từ remote
- Lệnh phục hồi
- Lệnh xem lịch sử
- Lệnh tạo nhánh
- Lệnh chuyển qua nhánh
- Lệnh merge từ nhánh khác
- Lệnh merge trong nhánh
- Mở rộng: thực hành

A terminal window is overlaid on the browser, showing the command history:

```
MINGW64:/c/Users/khoa2/gitlab
$ git status
On branch master
Your branch is up to date with 'origin/master'.
nothing to commit, working tree clean
$ |
```

Dùng lệnh git branch để tạo nhánh mới newlab

The screenshot shows a Visual Studio Code interface with two terminal panes. The left pane displays code for 'login.html' with a form for logging in. The right pane shows a terminal window with the following session:

```
MINGW64:/c/Users/khoa2/gitlab
$ git checkout -- login.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git branch newlab
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.
nothing to commit, working tree clean
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git branch newlab
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$
```

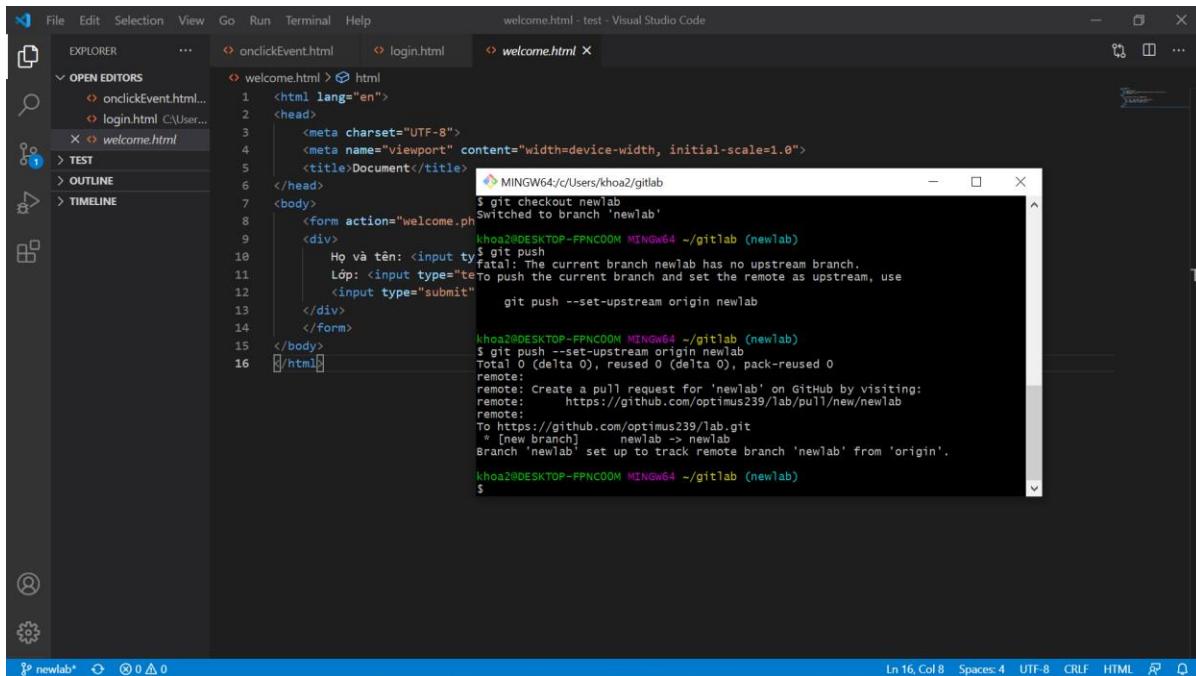
The status bar at the bottom indicates 'Ln 16, Col 8' and 'Spaces: 4'.

The screenshot shows a Visual Studio Code interface with two terminal panes. The left pane displays code for 'login.html'. The right pane shows a terminal window with the following session:

```
MINGW64:/c/Users/khoa2/gitlab
$ git checkout -- login.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git branch newlab
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.
nothing to commit, working tree clean
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git checkout newlab
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (newlab)
$ git status
Switched to branch 'newlab'
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (newlab)
$
```

The status bar at the bottom indicates 'Ln 16, Col 8' and 'Spaces: 4'.

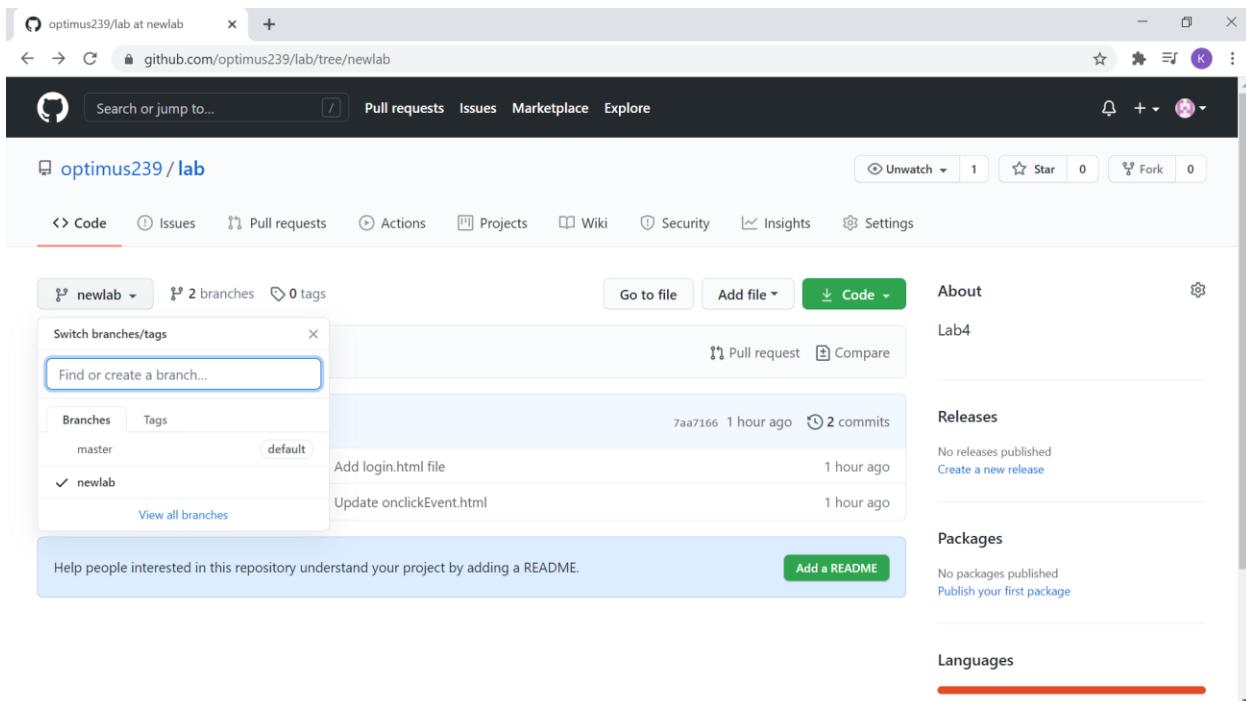
Do chúng ta chỉ mới tạo nhánh nhưng chưa upstream nhánh lên nên phải sử dụng lệnh git push --set-upstream origin newlab



The screenshot shows a Visual Studio Code interface with a terminal window open. The terminal shows the following command sequence:

```
khoa2@DESKTOP-FFNCOOM MINGW64 ~/gitlab (newlab)
$ git checkout newlab
Switched to branch 'newlab'
khoa2@DESKTOP-FFNCOOM MINGW64 ~/gitlab (newlab)
Họ và tên: <input type="text">
Lớp: <input type="text">To push the current branch and set the remote as upstream, use
<input type="submit" value="Push" />
git push --set-upstream origin newlab
khoa2@DESKTOP-FFNCOOM MINGW64 ~/gitlab (newlab)
$ git push --set-upstream origin newlab
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
remote: Create a pull request for 'newLab' on GitHub by visiting:
remote: https://github.com/optimus239/lab/pull/new/newlab
remote: To https://github.com/optimus239/lab.git
 * [new branch]      newlab -> newlab
Branch 'newlab' set up to track remote branch 'newlab' from 'origin'.
khoa2@DESKTOP-FFNCOOM MINGW64 ~/gitlab (newlab)
```

Nhánh mới đã xuất hiện trên giao diện github

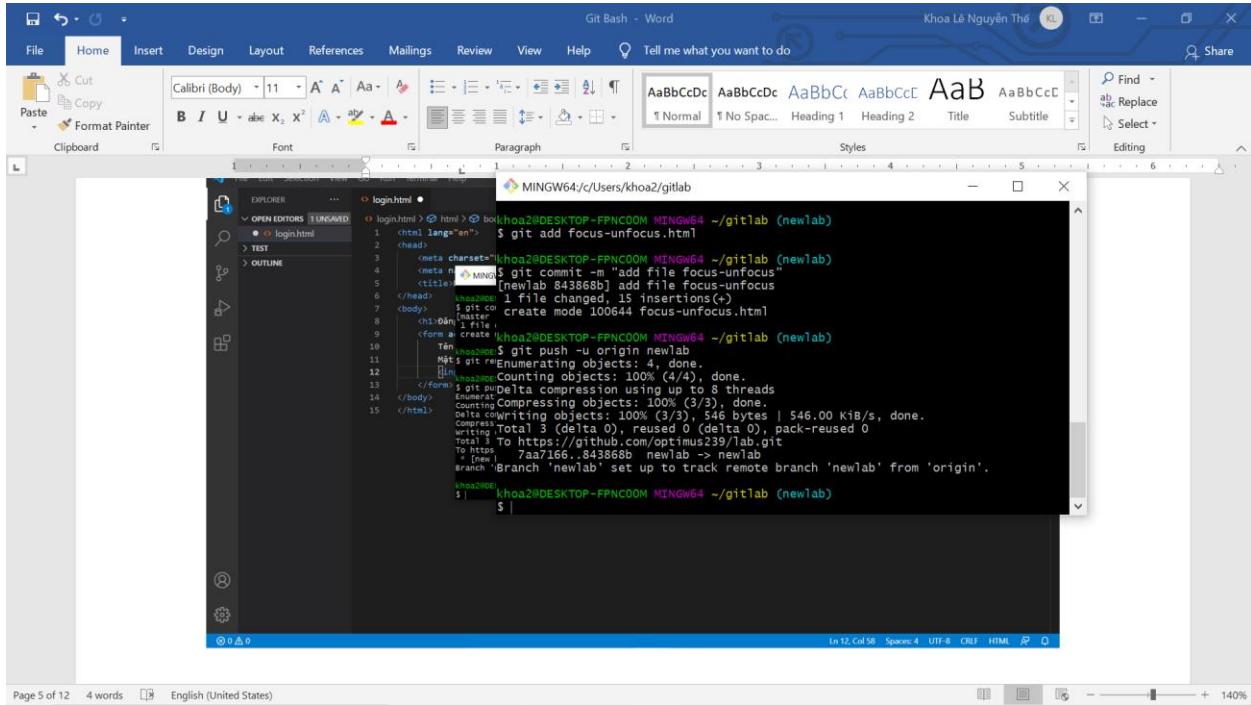


The screenshot shows a GitHub repository page for 'optimus239/lab'. The 'Code' tab is selected. On the left, there is a dropdown menu for switching branches, currently set to 'newlab'. The main area displays two commits:

- 7aa7166 1 hour ago Pull request 2 commits
- Add login.html file 1 hour ago
- Update onclickEvent.html 1 hour ago

On the right side of the page, there are sections for 'About', 'Releases', 'Packages', and 'Languages'.

Thao tác git add, git commit, git push để đưa lên 1 file mới cho nhánh newlab



The screenshot shows a Microsoft Word document window. In the center, there is a terminal window titled 'MINGW64:/c/Users/khoa2/gitlab'. The terminal displays the following command sequence:

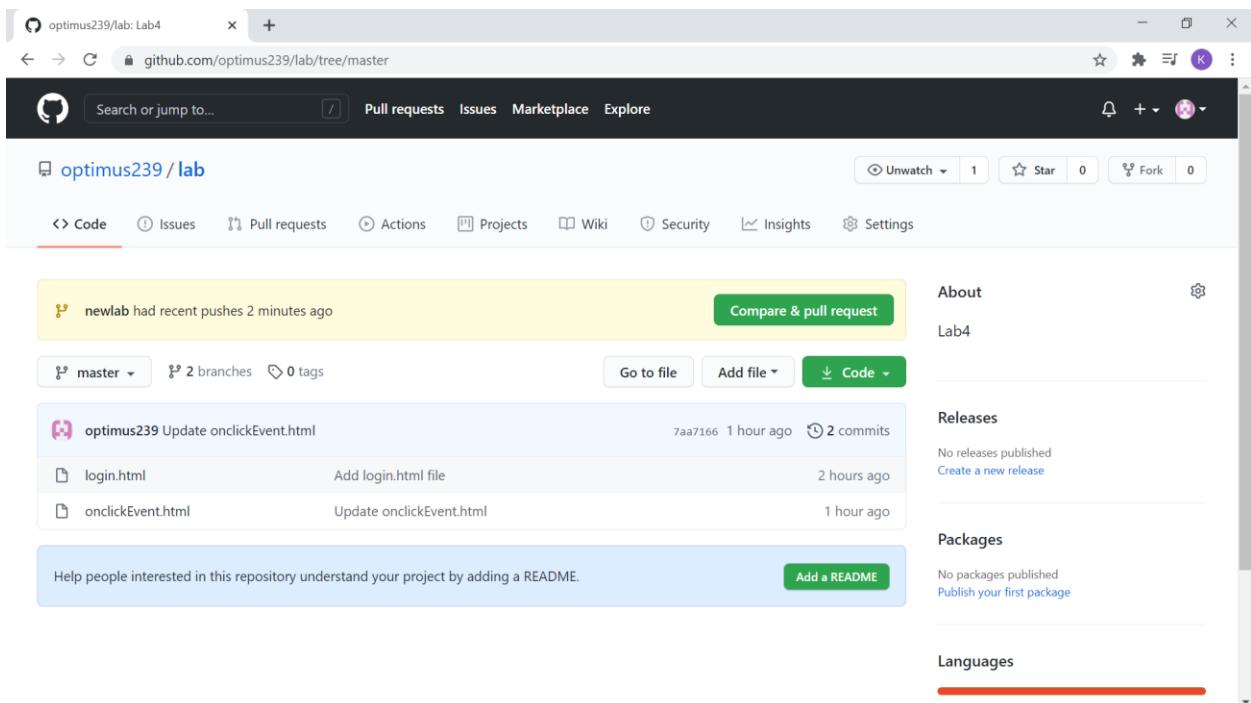
```
git add focus-unfocus.html
git commit -m "add file focus-unfocus"
git push -u origin newlab
```

Output from the terminal shows:

- File 'focus-unfocus.html' added.
- Commit message: 'add file focus-unfocus' (newlab 843868b)
- 1 file changed, 15 insertions(+)
- Branch 'newlab' set up to track remote branch 'newlab' from 'origin'.
- Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
- To https://github.com/optimus239/lab.git
- Branch 'newlab' 7aa7166..843868b newlab -> newlab

At the bottom of the terminal window, it says 'khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (newlab) \$ |'.

Giao diện xuất hiện thông báo nhánh newlab vừa push lên



Nhánh newlab đã có thêm 1 file mới

The screenshot shows the GitHub repository page for `optimus239/lab`. The `newlab` branch is selected. A yellow banner at the top indicates that `newlab` had recent pushes less than a minute ago. Below the banner, it says "This branch is 1 commit ahead of master". A list of commits is shown, with the most recent one being `optimus239 add file focus-unfocus`, pushed 1 minute ago. This commit added three files: `focus-unfocus.html`, `login.html`, and `onclickEvent.html`. A button to "Add a README" is visible at the bottom of the code area.

Trong tự, ta cũng dùng lệnh git branch để tạo nhánh newlab2 và thực hiện các thao tác push file mới lên

The screenshot shows the GitHub repository page for `optimus239/lab`. The `newlab2` branch is selected. A commit titled `optimus239 test revert` was made by `optimus239` just now. The commit message contains the word "revert". The commit details show 1 contributor and 1 line of code (1 sloc) with 5 Bytes. The code content is a single line: `1 test`.

A screenshot of a GitHub repository page for 'optimus239/lab'. The terminal window shows the following command sequence:

```
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (newLab2)
$ touch revert2.txt
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (newLab2)
$ vi revert2.txt
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (newLab2)
$ git add .
warning: LF will be replaced by CRLF in revert.txt.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in revert2.txt.
The file will have its original line endings in your working directory
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (newLab2)
$ git commit -m "test revert"
[newLab2 818d78c] test revert
 1 file changed, 1 insertion(+)
  create mode 100644 revert2.txt
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (newLab2)
$ git push newLab2
fatal: 'newLab2' does not appear to be a git repository
fatal: Could not read from remote repository.
```

Sau khi đã push lên ta tiến hành sửa nội dung file vừa push

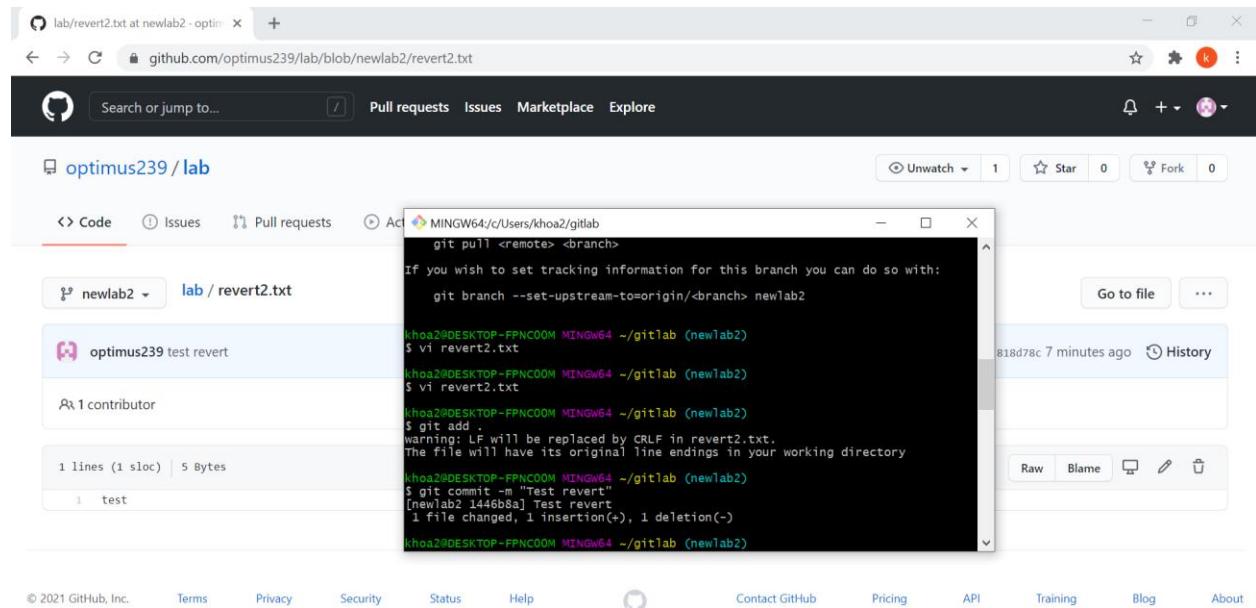
A screenshot of a GitHub repository page for 'optimus239/lab'. The terminal window shows the following command sequence:

```
test revert
```

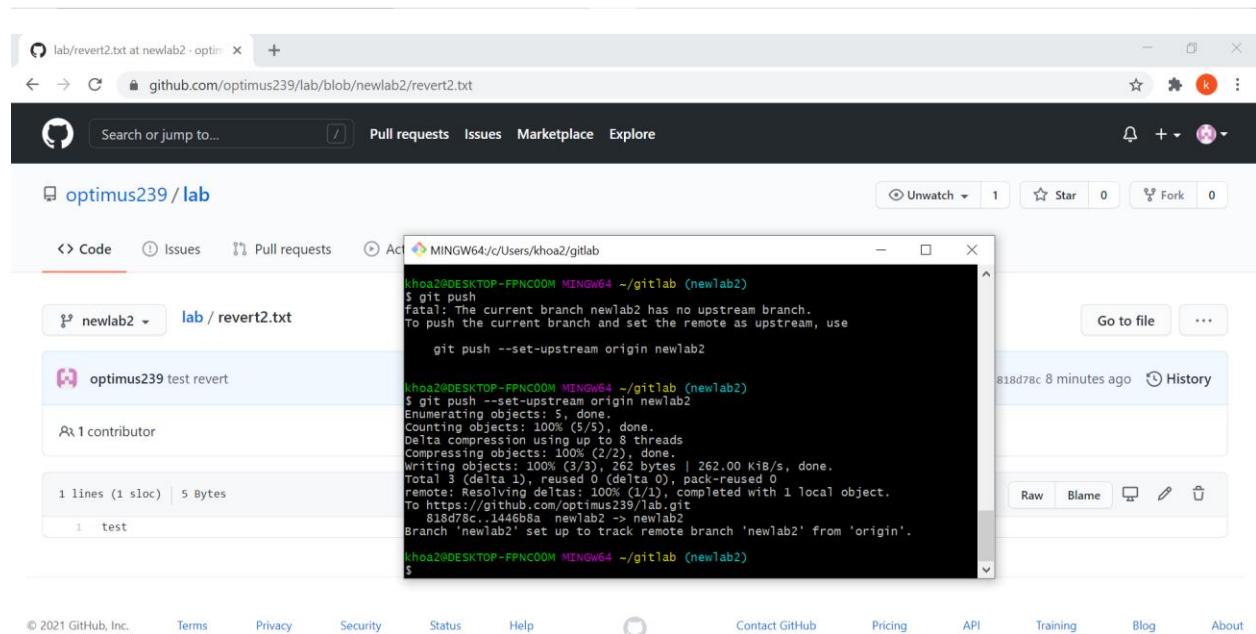
The bottom status bar indicates:

revert2.txt [unix] (02:10 15/01/2021) 1,11 All
"revert2.txt" [unix] 1L, 12C

Sau đó cũng thực hiện các thao tác để push lên



The screenshot shows a GitHub repository page for 'optimus239/lab'. A terminal window is open in the browser, displaying a command-line session. The user runs 'git pull <remote> <branch>' and receives instructions on how to set tracking information for the branch. The terminal then shows the user navigating to a file named 'revert2.txt' and performing a 'git add' operation. A warning message indicates that LF will be replaced by CRLF. The user then runs 'git commit -m "Test revert"' and 'git push'. The commit message '[newLab2 1446b8a] Test revert' is shown, along with a note that 1 file changed, 1 insertion(+), 1 deletion(-).



The screenshot shows the same GitHub repository page and terminal window. This time, the user runs 'git push' and receives an error message stating that the current branch 'newLab2' has no upstream branch. It instructs the user to push the current branch and set the remote as upstream using 'git push --set-upstream origin newLab2'. The terminal then shows the user running 'git push --set-upstream origin newLab2'. The output shows the process of pushing objects to the remote repository, including object enumeration, compression, and writing to the remote at 'https://github.com/optimus239/lab.git'. The branch 'newLab2' is set up to track the remote branch 'newLab2' from 'origin'.

Nội dung file đã thay đổi so với ban đầu

The screenshot shows a GitHub repository page for 'optimus239 / lab'. A specific file, 'revert2.txt', is displayed. The commit history shows a single commit from 'optimus239' titled 'Test revert'. The commit message contains the text 'test revert'. Below the commit, there is a terminal window showing the command 'git log' output, which displays three commits: the revert commit itself and two previous commits from 'khoa lnt' dated Jan 15, 2021.

Dùng lệnh git log để kiểm tra lịch sử commit

The screenshot shows a GitHub repository page for 'optimus239 / lab'. A specific file, 'revert2.txt', is displayed. The commit history shows a single commit from 'optimus239' titled 'Test revert'. The commit message contains the text 'test revert'. Below the commit, there is a terminal window showing the command 'git log' output, which displays three commits: the revert commit itself and two previous commits from 'khoa lnt' dated Jan 15, 2021.

<https://github.com/optimus239/lab/tree/newlab2>

Ta dung lệnh git revert và copy mã commit của lần trước đó ta thay đổi.

Ví dụ: git revert 1446b8a946f49806ab566704935cb84a2f3038

The screenshot shows a GitHub repository page for 'optimus239/lab'. A modal window titled 'Revert "Test revert"' is open, displaying the command: 'git revert 1446b8a946f49806ab566704935cb84a2f3038'. Below the command, the terminal output shows the revert process: 'This reverts commit 1446b8a946f49806ab566704935cb84a2f3038.', followed by a series of '#' comments. The GitHub interface includes a search bar, navigation tabs (Code, Issues, Pull requests), and a commit history panel on the right.

<https://github.com/optimus239/lab/tree/newlab2>

Sẽ có thông báo xuất hiện để ta biết revert đã xong

Sau khi revert thì vẫn thực hiện các thao tác để push file lên

The screenshot shows the same GitHub repository page after the revert. A modal window titled 'Commit' is open, showing the command: 'git commit -m "revert file"'. The terminal output shows the commit process: 'commit 1cb3bd6f13901eb05336001ad82219a52cd46f23', followed by 'Author: khoa Int <khoa201910@gmail.com> [newlab2 b889521] Revert "Test revert"'. The GitHub interface includes a search bar, navigation tabs (Code, Issues, Pull requests), and a commit history panel on the right.

Dùng lệnh git merge để merge hai nhánh lại. Lệnh merge được dùng từ nhánh master

The screenshot shows the Visual Studio Code interface with the terminal tab active. The terminal window displays the following command and its execution:

```
git merge newlab
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Họ và tên: <input type="text" value="khoa201910@gmail.com" name="name">
Lớp: <input type="text" value="newlab" name="class">

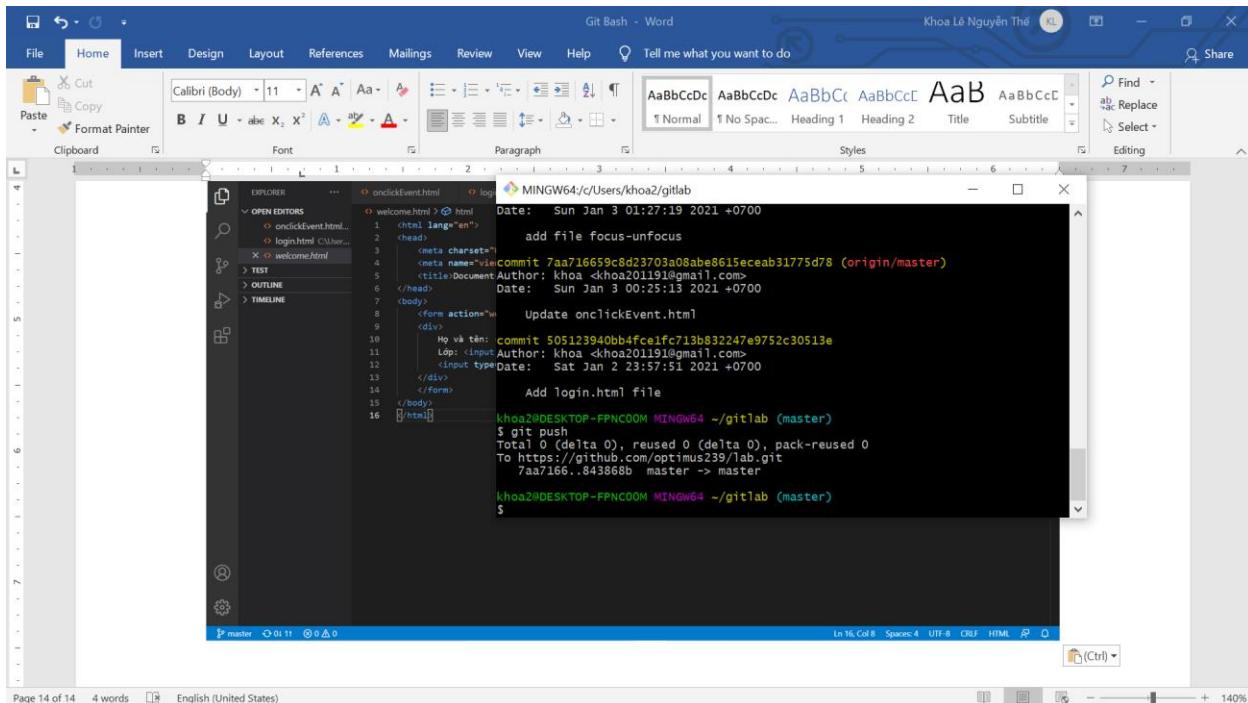
Branch 'newlab' set up to track remote branch 'newlab' from 'origin'.
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ git checkout master
Updating 7aa7166...843868b: newlab -> newlab
Fast-forward
  focus-unfocus.html | 15 ++++++-----
  1 file changed, 15 insertions(+), 15 deletions(-)
  create mode 100644 focus-unfocus.html
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
$ |
```

Dùng lệnh git log để xem lại lịch sử commit

The screenshot shows the Visual Studio Code interface with the terminal tab active. The terminal window displays the following command and its execution:

```
git log
commit 843868b94ee065f2cb0b549e059941b2e65bd8c2 (HEAD -> master, origin/newlab)
Author: khoa <khoa201910@gmail.com>
Date:   Sun Jan 3 01:27:19 2021 +0700
      add file focus-unfocus
commit 7aa716659c8d23703a08abe8615eceab31775d78 (origin/master)
Author: khoa <khoa201910@gmail.com>
Date:   Sun Jan 3 00:25:13 2021 +0700
      Update onclickEvent.htm
commit 505123940bbafce1fc713b832247e9752c30513e
Author: khoa <khoa201910@gmail.com>
Date:   Sat Jan 2 23:57:51 2021 +0700
      Add login.html file
khoa2@DESKTOP-FPNC00M MINGW64 ~/gitlab (master)
```

Sau đó dùng git push

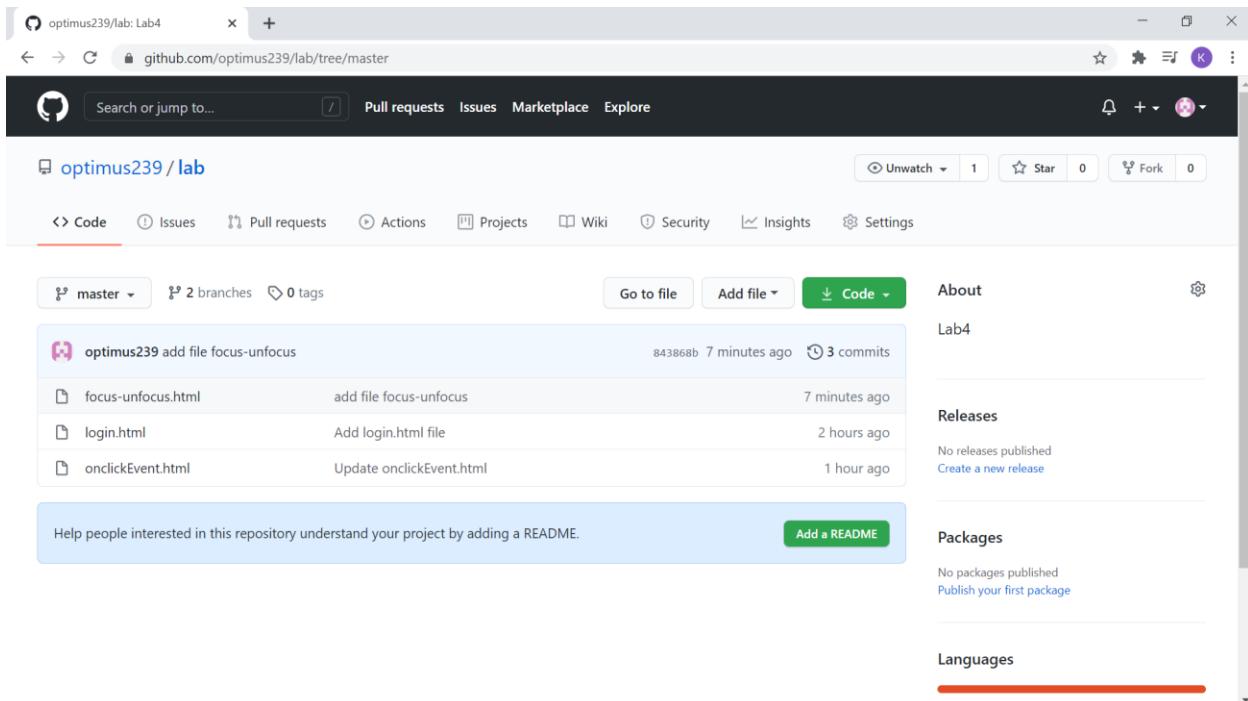


The screenshot shows a Microsoft Word document window. In the center, there is a terminal window titled "Git Bash - Word". The terminal displays the following command-line session:

```
MINGW64:/c/Users/khoa/gitlab
$ git push
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/optimus239/lab.git
   7aa166..843868b master -> master
khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master)
```

The terminal window has a dark theme. The Microsoft Word ribbon is visible at the top, and the status bar at the bottom shows "Page 14 of 14" and "English (United States)".

Nhánh master đã có thêm file mới sau khi merge



The screenshot shows a GitHub repository page for "optimus239/lab". The "Code" tab is selected. The "master" branch is shown with two new commits:

- optimus239 add file focus-unfocus (commit 843868b, 7 minutes ago)
- optimus239 update onclickEvent.html (commit 7aa1666, 2 hours ago)

The repository page also includes sections for "About", "Releases", "Packages", and "Languages".

Giả sử ta thay đổi nội dung file login.html để tạo tình huống conflict khi merge

The screenshot shows the Visual Studio Code interface with two open files: onclickEvent.html and login.html. The terminal window displays a git log and a merge conflict between the master branch and a newlab branch. The conflict occurs at line 11 of login.html, where the 'Tên người dùng' field is present in both branches. The terminal output shows the user switching to the newlab branch, committing the merge, and then switching back to master. The status bar indicates the user is on branch master.

```
c > Users > khoa2 > gitlab > login.html > html > body > h1
1   <html lang="en">
2     <head>
3       <meta charset="UTF-8">
4       <meta name="viewport" content="width=device-width, initial-scale=1.0">
5       <title>Document</title>
6   </head>
7   <body>
8     <h1>Đăng nhập vào trang </h1>
9     <form action="login.php">
10      Tên người dùng : <input type="text" value="khoa2" />
11      Mật khẩu : <input type="password" value="123456" />
12      <input type="submit" value="Login" />
13    </form>
14  </body>
15 </html>

khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (newlab)
$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
Tên người dùng : 
Mật khẩu : 

khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master)
$ git commit -m "test conflict merge"
[master 283c242] test conflict merge
 1 file changed, 1 insertion(+), 1 deletion(-)

nothing to commit, working tree clean
khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master)
$ |
```

Bên nhánh newlab cũng sẽ sửa file login.html vào đúng chỗ nhánh master đã sửa

The screenshot shows the Visual Studio Code interface with two open files: onclickEvent.html and login.html. The terminal window displays a git log and a merge conflict between the master branch and a newlab branch. The conflict occurs at line 11 of login.html, where the 'Tên người dùng' field is present in both branches. The terminal output shows the user switching to the newlab branch, committing the merge, and then switching back to master. The status bar indicates the user is on branch newlab.

```
c > Users > khoa2 > gitlab > login.html > html
1   <html lang="en">
2     <head>
3       <meta charset="UTF-8">
4       <meta name="viewport" content="width=device-width, initial-scale=1.0">
5       <title>Document</title>
6   </head>
7   <body>
8     <h1>Đăng nhập và cần xác nhận </h1>
9     <form action="login.php">
10      Tên người dùng : <input type="text" value="khoa2" />
11      Mật khẩu : <input type="password" value="123456" />
12      <input type="submit" value="Login" />
13    </form>
14  </body>
15 </html>

khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (newlab)
$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
Tên người dùng : 
Mật khẩu : 

khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (newlab)
$ git commit -m "Test conflict merge newlab branch"
[newlab ed2f1e6] Test conflict merge newlab branch
 1 file changed, 1 insertion(+), 1 deletion(-)

nothing to commit, working tree clean
khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (newlab)
$ git status
On branch newlab
Your branch is ahead of 'origin/newLab' by 1 commit.
  (use "git push" to publish your local commits)

khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (newlab)
$ |
```

Công cụ dung để xử lý conflict



Dùng lệnh git config cấu hình tool p4merge sau khi cài đặt

A screenshot of Visual Studio Code showing a terminal window. The terminal is running on a Windows system (MINGW64) and displays the following git configuration command:

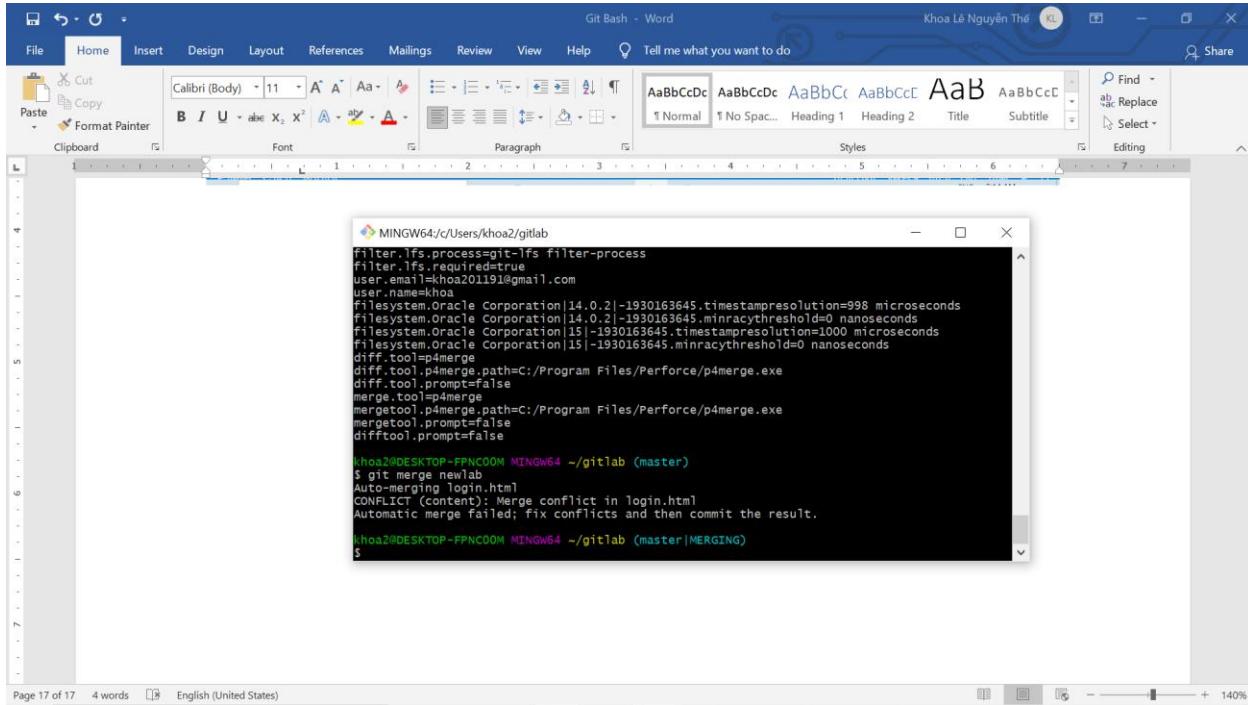
```
git config --global diff.tool p4merge
git config --global difftool.prompt false
git config --global merge.tool p4merge
git config --global mergetool.p4merge.path=C:/Program Files/Perforce/p4merge.exe
git config --global mergetool.prompt=false
difftool.prompt=false
```

The terminal also shows the user's email and name being set:

```
user.email=khoa20191@gmail.com
user.name=khoa
```

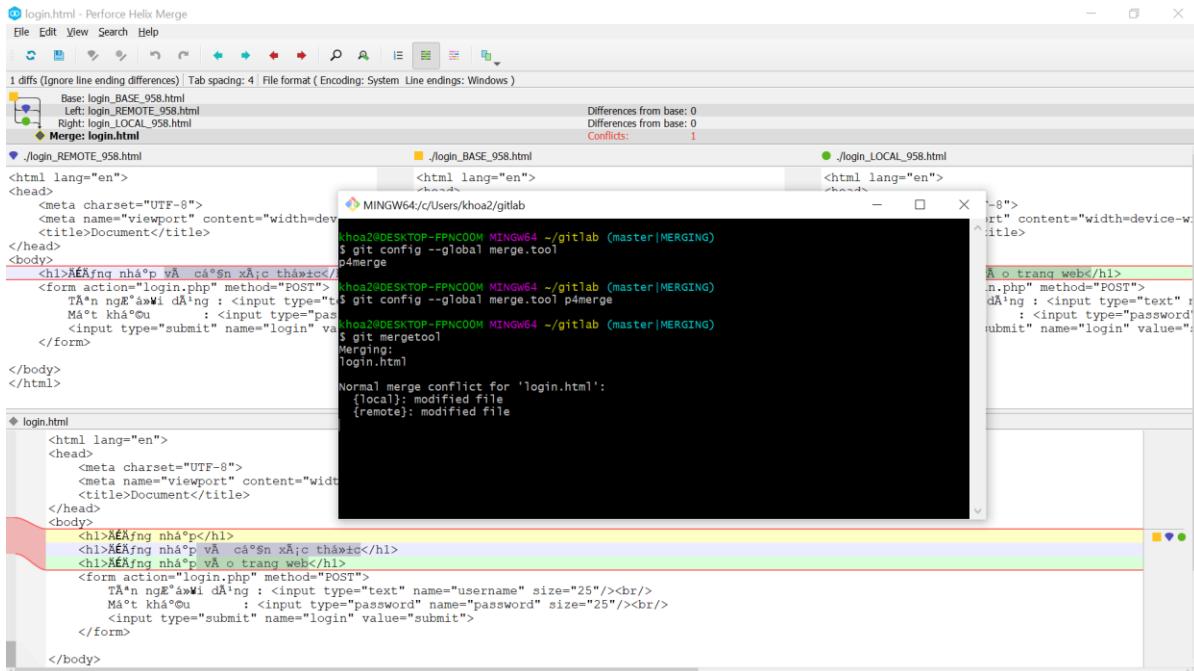
At the bottom of the terminal, the prompt shows the user's name and the host: "khoa2@DESKTOP-FPNC00M MINGW64 ~ /gitlab (master)".

Nhánh master merge đã xảy ra lỗi conflict



Dùng lệnh git config --global để kiểm tra các tool hiện có

Sử dụng git p4merge để xử lý lỗi merge



Giao diện của helix p4merge

Chúng ta có thể thao tác xử lý tùy chỉnh các dòng code muốn giữ và bỏ

Do ở đây mình chưa chỉnh font chữ nên có bị lỗi font chữ

```
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
</head>
<body>
<h1>Ã‰fng nhâ?p vÃ cÃ sÃ thÃ¢</h1>
<form action="login.php" method="POST">
    TÃ'n ngÃ'âwi dÃing : <input type="text" name="username" size="25"/><br/>
    MÃt khÃ@u : <input type="password" name="password" size="25"/><br/>
    <input type="submit" name="login" value="submit">
</form>
</body>
</html>
```

```
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
</head>
<body>
<h1>Ã‰fng nhâ?p vÃ cÃ sÃ thÃ¢</h1>
<form action="login.php" method="POST">
    TÃ'n ngÃ'âwi dÃing : <input type="text" name="username" size="25"/><br/>
    MÃt khÃ@u : <input type="password" name="password" size="25"/><br/>
    <input type="submit" name="login" value="submit">
</form>
</body>
</html>
```

```
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
</head>
<body>
<h1>Ã‰fng nhâ?p vÃ cÃ sÃ thÃ¢</h1>
<h1>Ã‰fng nhâ?p vÃ cÃ sÃ thÃ¢</h1>
<h1>Ã‰fng nhâ?p vÃ o trang web</h1>
<form action="login.php" method="POST">
    TÃ'n ngÃ'âwi dÃing : <input type="text" name="username" size="25"/><br/>
    MÃt khÃ@u : <input type="password" name="password" size="25"/><br/>
    <input type="submit" name="login" value="submit">
</form>
</body>
</html>
```

```
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
</head>
<body>
<h1>Ã‰fng nhâ?p vÃ cÃ sÃ thÃ¢</h1>
<h1>Ã‰fng nhâ?p vÃ cÃ sÃ thÃ¢</h1>
<h1>Ã‰fng nhâ?p vÃ o trang web</h1>
<form action="login.php" method="POST">
    TÃ'n ngÃ'âwi dÃing : <input type="text" name="username" size="25"/><br/>
    MÃt khÃ@u : <input type="password" name="password" size="25"/><br/>
    <input type="submit" name="login" value="submit">
</form>
</body>
</html>
```

login.html - Perforce Helix Merge

File Edit View Search Help

1 diffs (Ignore line ending differences) Tab spacing: 4 File format: System Line endings: W

Base: login_BASE_958.html
Left: login_REMOTE_958.html
Right: login_LOCAL_958.html
Merge: login.html

Recognize Line Ending and White Space Differences
 ✓ Ignore Line Ending Differences
 Ignore Line Ending and White Space Length Differences
 Ignore Line Ending and All White Space Differences

./login_BASE_958.html

```
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <h1>ĐĂNG NHẬP NHÀ MÁT KHẨU</h1>
    <form action="login.php" method="POST">
        Tên ng&áy d&aring : <input type="text" name="username" value=""/>
        Mật khẩu : <input type="password" name="password" value=""/>
        <input type="submit" name="login" value="Login" />
    </form>
</body>
</html>
```

./login_LOCAL_958.html

```
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <h1>ĐĂNG NHẬP NHÀ MÁT KHẨU</h1>
    <form action="login.php" method="POST">
        Tên ng&áy d&aring : <input type="text" name="username" value=""/>
        Mật khẩu : <input type="password" name="password" value=""/>
        <input type="submit" name="login" value="Login" />
    </form>
</body>
</html>
```

login.html

```
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <h1>ĐĂNG NHẬP NHÀ MÁT KHẨU</h1>
    <h1>ĐĂNG NHẬP NHÀ MÁT KHẨU</h1>
    <h1>ĐĂNG NHẬP NHÀ MÁT KHẨU</h1>
    <form action="login.php" method="POST">
        Tên ng&áy d&aring : <input type="text" name="username" size="25"/>
        Mật khẩu : <input type="password" name="password" size="25"/>
        <br/>
        <input type="submit" name="login" value="Submit" />
    </form>
</body>
</html>
```

Sau khi merge xong tiếp tục dùng lệnh git mergetool để kiểm tra xem còn file nào chưa merge không

File Edit Selection View Go Run Terminal Help login.html - test - Visual Studio Code

EXPLORER ...

OPEN EDITORS ...

TEST

OUTLINE

TIMELINE

c:\> Users > khoa2 > gitlab > login.html > html

```
1  <html lang="en">
2  <head>
3      <meta charset="UTF-8">
4      <meta name="viewport" content="width=device-width, initial-scale=1.0">
5      <title>Document</title>
6  </head>
7  <body>
8      <h1>ĐĂNG NHẬP VÀO TRANG WEB</h1>
9      <form action="login.php" method="POST">
10         <input type="text" name="username" value=""/>
11         <input type="password" name="password" value=""/>
12         <br/>
13         <input type="submit" name="login" value="Login" />
14     </form>
15 </body>khosa@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master|MERGING)
16 $ git config --global merge.tool p4merge
          Khoa2@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master|MERGING)
          $ git mergetool
          Merging:
          login.html

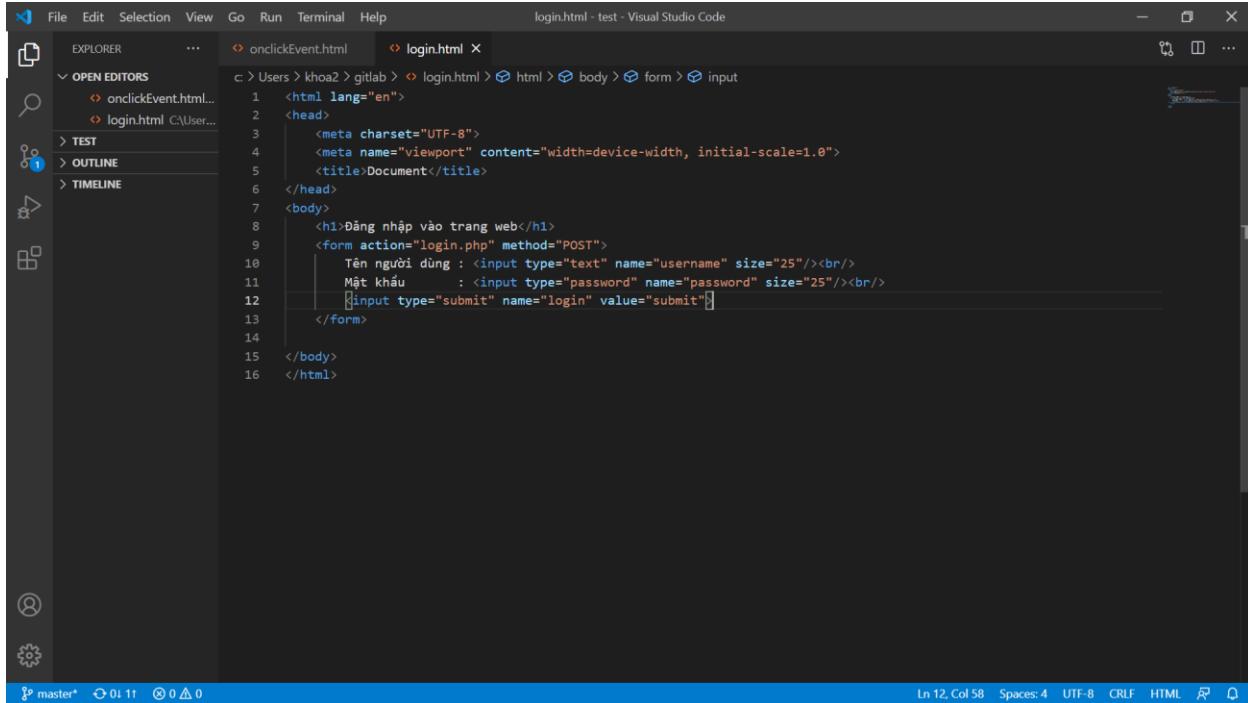
          Normal merge conflict for 'login.html':
          {local}: modified file
          {remote}: modified file

          khosa@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master|MERGING)
          $ git mergetool
          No files need merging
          khosa@DESKTOP-FPNCOOM MINGW64 ~/gitlab (master|MERGING)
          $
```

master* 0 1f 0 0 △ 0

In 16, Col 8 Spaces: 4 UTF-8 CRLF HTML

Sau khi merge xong thực hiện các thao tác để push file lên lại. Và đây là kết quả sau khi merge xong file login.html



The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** login.html - test - Visual Studio Code.
- Explorer Panel:** Shows the project structure: C:\Users\khoa2\gitlab\login.html. The file login.html is selected.
- Editor Area:** Displays the HTML code for login.html. The code includes a title, meta tags, and a form with fields for username and password, and a submit button.
- Bottom Status Bar:** Shows the current branch (master*), file count (0), character count (11), and other status information like line (Ln 12), column (Col 58), spaces (Spaces: 4), encoding (UTF-8), and file type (HTML).

Bài tập mở rộng GitLab (Self Host Managed)

Cách cài đặt:

CentOS 7

- CPU: 4 Core
- RAM: 4 GB

Chạy các dòng lệnh sau

Cập nhật hệ điều hành

yum install epel-release -y

yum update -y

Thiết lập Hostname

hostnamectl set-hostname khoa

Tắt FirewallD và SELinux

sed -i 's/SELINUX=enforcing/SELINUX=disabled/g' /etc/sysconfig/selinux

sed -i 's/SELINUX=enforcing/SELINUX=disabled/g' /etc/selinux/config

systemctl stop firewalld

systemctl disable firewalld

Cấu hình đồng bộ thời gian

timedatectl set-timezone Asia/Ho_Chi_Minh

yum -y install chrony

systemctl enable chronyd.service

systemctl restart chronyd.service

chronyc sources

timedatectl set-local-rtc 0

Khởi động lại

init 6

Cài đặt gói phụ thuộc

sudo yum install -y curl policycoreutils-python openssh-server

sudo systemctl enable sshd

sudo systemctl start sshd

Cài đặt repo Gitlab

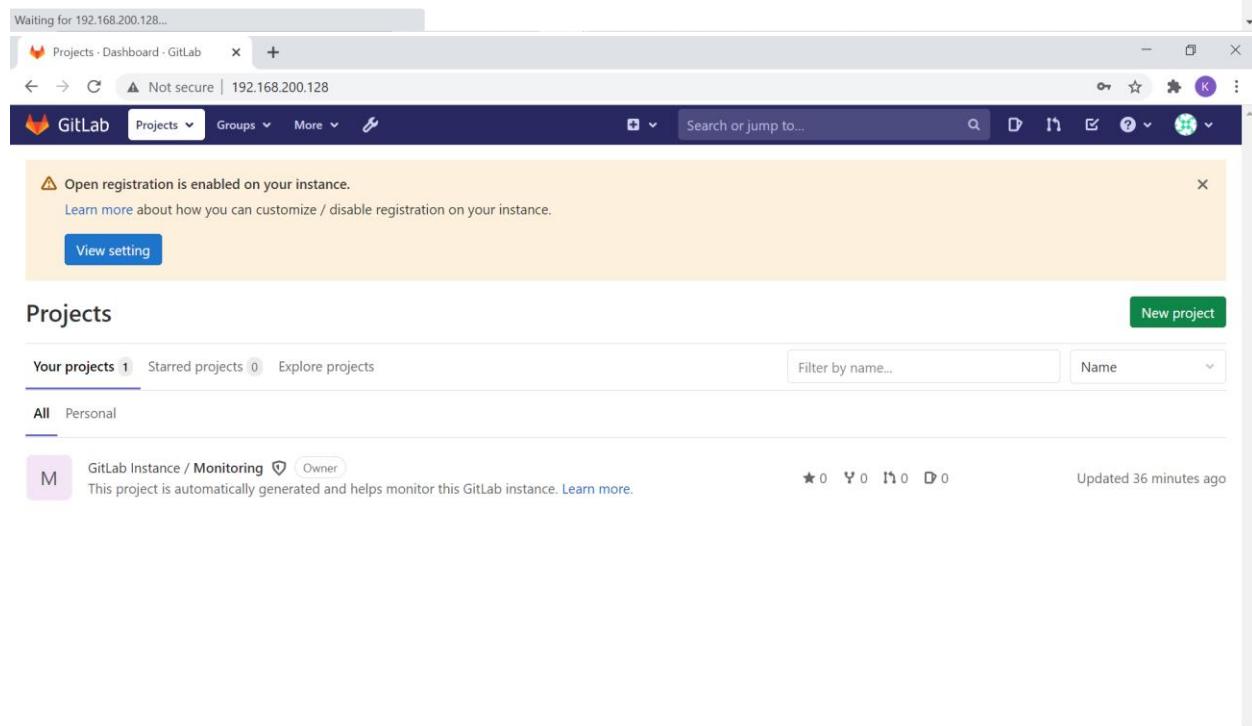
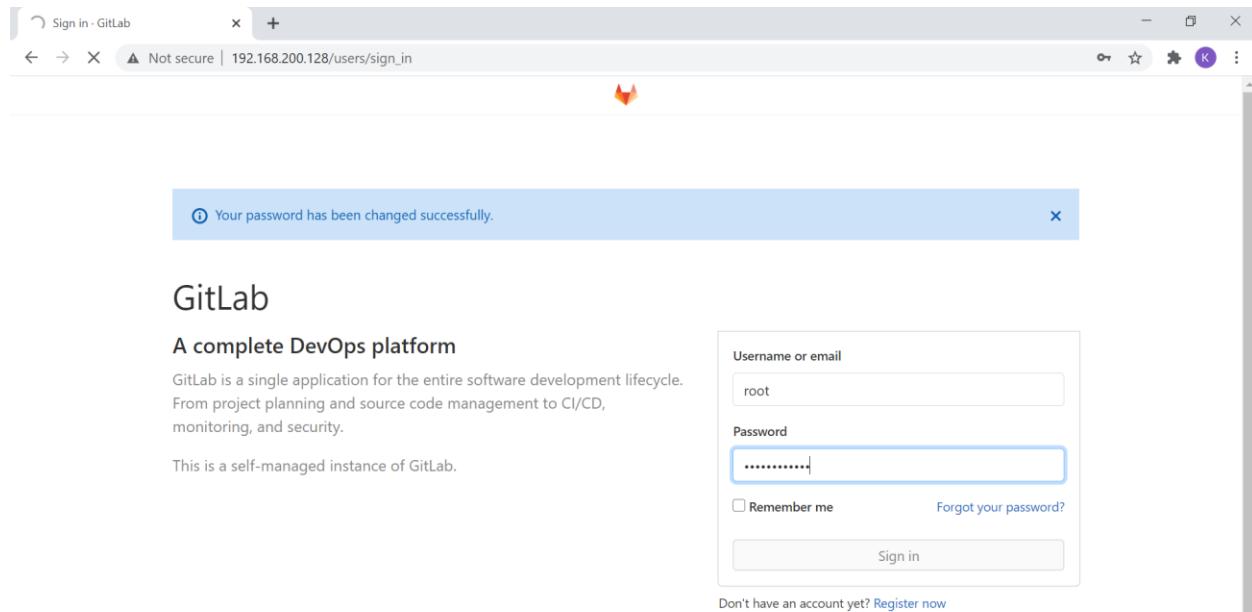
curl https://packages.gitlab.com/install/repositories/gitlab/gitlab-ce/script.rpm.sh

| sudo bash

Cài đặt Gitlab CE

```
sudo EXTERNAL_URL="http://192.169.200.128" yum install -y gitlab-ce
```

Sau khi cài đặt xong dùng tài khoản root để đăng nhập



Administrator / Testhost · GitLab

Not secure | 192.168.200.128/root/testhost

Testhost

Project overview

Details

Activity

Issues 0

Merge Requests 0

CI / CD

Operations

Packages & Registries

Analytics

Wiki

Snippets

Collapse sidebar

Project 'Testhost' was successfully created.

Testhost

Project ID: 2

The repository for this project is empty

You can get started by cloning the repository or start adding files to it with one of the following options.

Clone New file Add README Add LICENSE Add CHANGELOG Add CONTRIBUTING

Command line instructions

You can also upload existing files from your computer using the instructions below.

Git global setup

```
git config --global user.name "Administrator"  
git config --global user.email "admin@example.com"
```

Create a new repository

```
git clone http://192.168.200.128/root/testhost.git  
cd testhost  
touch README.md  
git add README.md  
git commit -m "add README"  
git push -u origin master
```

Administrator / Testhost · GitLab

Not secure | 192.168.200.128/root/testhost

Testhost

Project overview

Details

Activity

Issues 0

Merge Requests 0

CI / CD

Operations

Packages & Registries

Analytics

Wiki

Snippets

Collapse sidebar

Project 'Testhost' was successfully created.

```
git config --global user.name "Administrator"  
git config --global user.email "admin@example.com"
```

Create a new repository

```
git clone http://192.168.200.128/root/testhost.git  
cd testhost  
touch README.md  
git add README.md  
git commit -m "add README"  
git push -u origin master
```

Push an existing folder

```
cd existing_folder  
git init  
git remote add origin http://192.168.200.128/root/testhost.git  
git add .  
git commit -m "Initial commit"  
git push -u origin master
```

Push an existing Git repository

```
cd existing_repo  
git remote rename origin old-origin  
git remote add origin http://192.168.200.128/root/testhost.git  
git push -u origin --all  
git push -u origin --tags
```

```
git config --global user.name "Administrator"
git config --global user.email "admin@example.com"
cd testhost
git add .
git commit -m "Initial commit"
git push -u origin master
```

Screenshot saved
The screenshot was added to your OneDrive.
OneDrive

Name	Last commit	Last update
labhost.txt	Push file lan dau	1 minute ago

Members · Administrator / Testhost

Not secure | 192.168.200.128/root/testhost/-/project_members

GitLab Projects Groups More Search or jump to...

Testhost

Project overview Repository Issues Merge Requests CI / CD Operations Packages & Registries Analytics Wiki Snippets Members

Invite member

GitLab member or Email address: Invite "khoa201191@gmail.com" by email

Choose a role permission: Developer

Access expiration date: 2021-01-08

Invite Import

Existing members and groups

Members of Testhost 1

Administrator @root It's you Given access 18 minutes ago Maintainer

This screenshot shows the 'Members' page for the 'Testhost' project in GitLab. The sidebar on the left lists various project management sections. The main area is titled 'Invite member' and contains fields for the member's email ('khoa201191@gmail.com'), a developer role, and an expiration date of '2021-01-08'. Below this, the 'Existing members and groups' section shows the current member 'Administrator @root' (the user who invited) and the new invitee 'khoa201191@gmail.com'.

Members · Administrator / Testhost

Not secure | 192.168.200.128/root/testhost/-/project_members

GitLab Projects Groups More Search or jump to...

Testhost

Project overview Repository Issues Merge Requests CI / CD Operations Packages & Registries Analytics Wiki Snippets Members

Choose a role permission: Guest

Access expiration date: Expiration date

Invite Import

Existing members and groups

Members of Testhost 2

Administrator @root It's you Given access 22 minutes ago Maintainer

khoa201191@gmail.com Invited by Administrator 1 minute ago

This screenshot shows the 'Members' page for the 'Testhost' project in GitLab. The sidebar and top navigation are identical to the first screenshot. The main area shows the invitation process for 'khoa201191@gmail.com' with a guest role and no expiration date set. After the invite was sent, the invitee appears in the 'Existing members and groups' section under the 'Testhost' group, listed as 'khoa201191@gmail.com' with a status of 'Invited by Administrator 1 minute ago'.

Dashboard - Admin Area · GitLab + New

Not secure | 192.168.200.128/admin

GitLab Projects Groups More 🔍

Search or jump to... 🔍 ↻ ↺ ⚙️ 🌐 🌐 🌐

Admin Area

Overview

Dashboard

Projects

Users

Groups

Jobs

Runners

Gitaly Servers

Analytics

Monitoring

Messages

System Hooks

« Collapse sidebar

Projects: 2

New project

Users: 1

New user Users statistics

Groups: 1

New group

Statistics

Forks	0
Issues	0
Merge Requests	0
Notes	0
Snippets	0
SSH Keys	0
Milestones	0
Active Users	1

Features

Sign up	✓
LDAP	OFF
Gravatar	✓
OmniAuth	✓
Reply by email	OFF
Container Registry	OFF
Gitlab Pages	OFF
Shared Runners	✓

Components up-to-date

Component	Version
GitLab	13.7.1 (c97c8073a0e)
GitLab Shell	13.14.0
GitLab Workhorse	v8.58.0
GitLab API	v4
Ruby	2.7.2p137
Rails	6.0.3.3
PostgreSQL	12.4
Redis	5.0.9
Gitaly Servers	

The screenshot shows the GitLab Admin Area dashboard. The left sidebar includes links for Overview, Dashboard, Projects, Users, Groups, Jobs, Runners, Gitaly Servers, Analytics, Monitoring, Messages, and System Hooks. The main area displays three cards: 'Projects: 2' (with a 'New project' button), 'Users: 1' (with 'New user' and 'Users statistics' buttons), and 'Groups: 1' (with a 'New group' button). Below these are three sections: 'Statistics' (Forks: 0, Issues: 0, Merge Requests: 0, Notes: 0, Snippets: 0, SSH Keys: 0, Milestones: 0, Active Users: 1), 'Features' (Sign up: ✓, LDAP: OFF, Gravatar: ✓, OmniAuth: ✓, Reply by email: OFF, Container Registry: OFF, Gitlab Pages: OFF, Shared Runners: ✓), and 'Components' (GitLab: 13.7.1, GitLab Shell: 13.14.0, GitLab Workhorse: v8.58.0, GitLab API: v4, Ruby: 2.7.2p137, Rails: 6.0.3.3, PostgreSQL: 12.4, Redis: 5.0.9, Gitaly Servers: up-to-date).