

MSSV: 1815060002

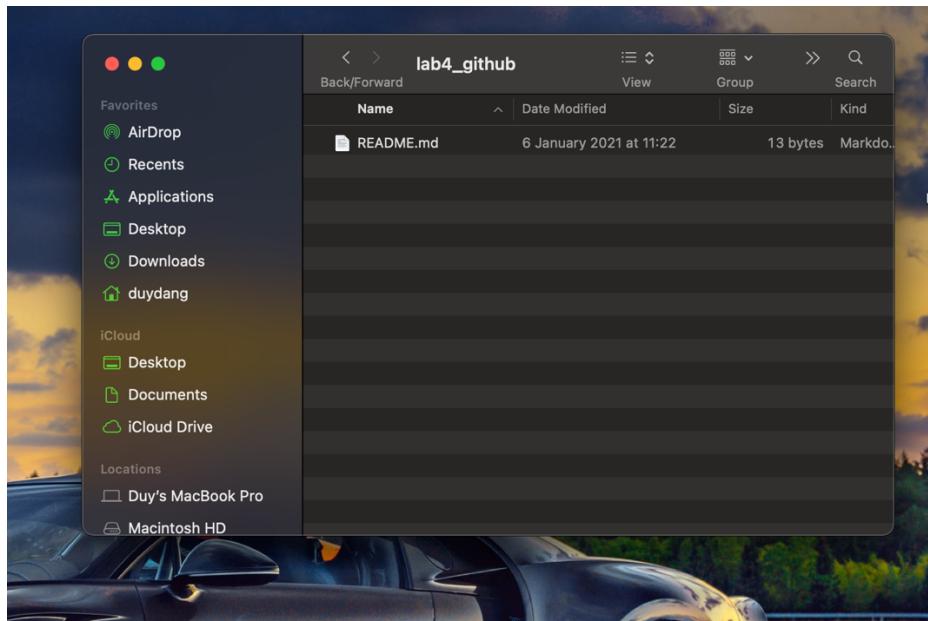
Họ Tên: Đặng Ngọc Duy

Lớp: 18HTHA1

## CÔNG CỤ VÀ MÔI TRƯỜNG PHÁT TRIỂN PHẦN MỀM

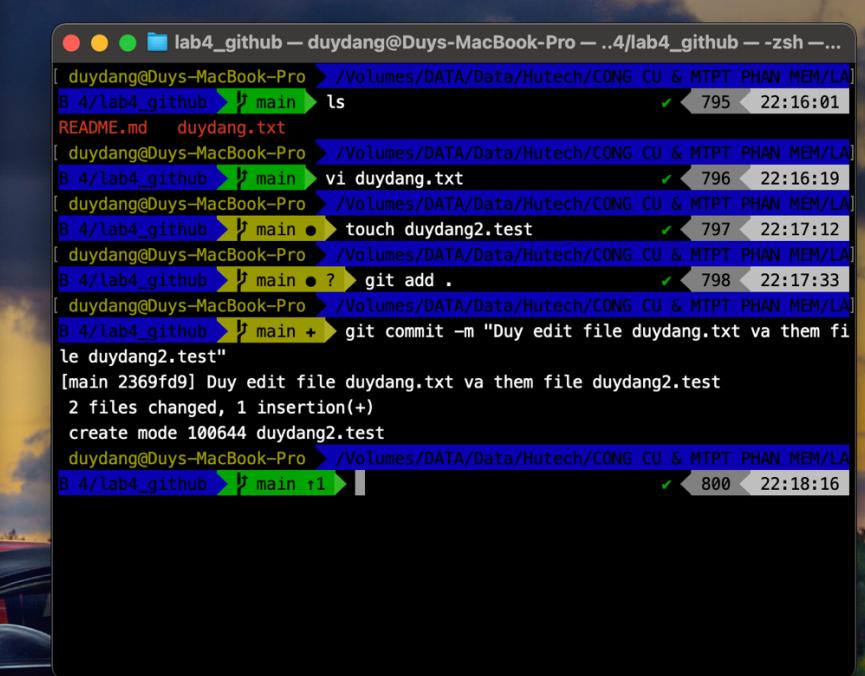
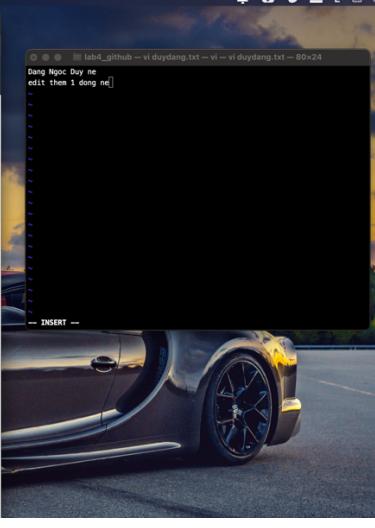
### LAB 4: GitHub

1. Tạo repo trên git, tạo thư mục repo dưới local (folder lab4\_github), clone project về repor local



```
duy dang@Duy's-MacBook-Pro ~ % cd /Volumes/DATA/Data/Hutech/CONG CU \& MTPT\PHAN\ MEM/LAB\ 4/
duy dang@Duy's-MacBook-Pro ~ % git clone https://github.com/duydangit/lab4.github.git
Cloning into 'lab4.github'...
remote: Enumerating objects: 22, done.
remote: Counting objects: 100% (22/22), done.
remote: Compressing objects: 100% (17/17), done.
remote: Total 22 (delta 3), reused 16 (delta 0), pack-reused 0
Receiving objects: 100% (22/22), done.
Resolving deltas: 100% (3/3), done.
duy dang@Duy's-MacBook-Pro ~ % cd lab4.github
duy dang@Duy's-MacBook-Pro ~ % main
```

## 2. Tạo file text, add, commit và push lên nhánh chính (Main)



The image shows a composite of three screenshots. The top-left screenshot is a Chrome browser window displaying a GitHub repository page for 'duyngocduyne/lab4.github'. It shows a single file named 'duydang.txt' with the content 'Dang Ngoc Duy ne'. The top-right screenshot is a blurred image of a dark-colored car's side profile. The bottom screenshot is a terminal window titled 'lab4.github — duyngocduyne@Duy's-MacBook-Pro ~ 4/lab4.github -- zsh --'. The terminal shows a sequence of commands: 'ls', 'vi dudyang.txt', 'touch dudyang2.test', 'git add .', 'git commit -m "Duy edit file dudyang.txt va them file dudyang2.test"', and 'git push'. The commit message is visible at the bottom of the terminal window.

### 3. Tạo 2 nhánh mới( branch ‘duy1’ & branch ‘duy2’), thao tác add-commit-push file text lên từng nhánh

Terminal Shell Edit View Window Help

duydangit/lab4\_github

github.com/duydangit/lab4\_github

duydangit / lab4\_github

Pulls Issues Marketplace Explore

Search or jump to... Code Issues Pull requests Actions Projects Wiki Security ...

duy1 had recent pushes less than a minute ago Compare & pull request

main Go to file Add file Code

duydangit Duy edit file duydang.txt va them file duy... 15 minutes ago 3

README.md Initial commit 9 days ago

duydang.txt Duy edit file duydang.txt va them file duy... 15 minutes ago

duydang2.test Duy edit file duydang.txt va them file duy... 15 minutes ago

README.md

**lab4\_github**

About No description, website, or topics provided.

Releases No releases published Create a new release

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Terminal Shell Edit View Window Help

duydangit/lab4\_github

github.com/duydangit/lab4\_github

duydangit / lab4\_github

Pulls Issues Marketplace Explore

Search or jump to... Code Issues Pull requests Actions Projects Wiki Security ...

duy1 had recent pushes less than a minute ago Compare & pull request

main Go to file Add file Code

duydangit Duy edit file duydang.txt va them file duy... 14 minutes ago 3

README.md Initial commit 9 days ago

duydang.txt Duy edit file duydang.txt va them file duy... 14 minutes ago

duydang2.test Duy edit file duydang.txt va them file duy... 14 minutes ago

README.md

**lab4\_github**

About No description, website, or topics provided.

Releases No releases published Create a new release

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Terminal Shell Edit View Window Help

lab4\_github — dudyang@Duy's-MacBook-Pro ~ / .4/lab4\_github ~ zsh...

```
[duydangit@Duy's-MacBook-Pro ~]$ cd /Users/duydang/Desktop/test/duydang/lab4_github
[duydangit@Duy's-MacBook-Pro ~]$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
[duydangit@Duy's-MacBook-Pro ~]$ git branch
* main
  day1
[duydangit@Duy's-MacBook-Pro ~]$ git checkout day1
Switched to branch 'day1'
[duydangit@Duy's-MacBook-Pro ~]$ git pull origin main
warning: Pulling without specifying how to reconcile divergent branches is
discouraged. You can squelch this message by running one of the following
commands sometime before your next pull:
  git config pull.rebase false # merge (the default strategy)
  git config pull.rebase true # rebase
  git config pull.ff only # fast-forward only
You can replace "git config" with "git config --global" to set a default
preference for all repositories. You can also pass --rebase, --no-rebase,
or --ff-only on the command line to override the configured default per
invocation.

From https://github.com/duydangit/lab4_github
 * branch            main      -> FETCH_HEAD
  * branch            day1     -> origin/main
Already up to date.
[duydangit@Duy's-MacBook-Pro ~]$ git log
* 820 22:32:11
* 819 22:32:11
* 818 22:32:11
* 817 22:32:11
* 816 22:32:11
```

The screenshot shows a GitHub repository page for 'duyngit/lab4.github'. The main content area displays a file comparison between commit 'duy1' (15 minutes ago) and commit 'duy2' (less than a minute ago). The file being compared is 'duydang.txt'. The commit message for 'duy1' is 'Duy edit file duydang.txt va them file duy...'. The commit message for 'duy2' is 'Duy edit file duydang.txt va them file duy...'. The file content shows changes made in the second commit.

**File Comparison:**

```

diff --git a/duydang.txt b/duydang.txt
--- a/duydang.txt
+++ b/duydang.txt
@@ -1 +1 @@
-1234567890
+1234567890

```

**GitHub Repository Page:**

The GitHub page shows the repository structure with files like README.md, duydang.txt, and duydang2.test. It also includes sections for Releases, Packages, and a README file.

**Terminal Session:**

```

* [new branch]  duy1 => duy1
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit/lab4.github$ git checkout main
Switched to branch "main"
Your branch is up-to-date with 'origin/main'.
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit/lab4.github$ git branch duy2
* [new branch]  duy2
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit/lab4.github$ git checkout duy2
Switched to branch "duy2"
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit/lab4.github$ git pull origin main
warning: Pulling without specifying how to reconcile divergent branches is
discouraged. You can squelch this message by running one of the following
commands sometime before your next pull:
  git config pull.rebase false # merge (the default strategy)
  git config pull.rebase true # rebase
  git config pull.ff only # fast-forward only
You can replace "git config" with "git config --global" to set a default
preference for all repositories. You can also pass --rebase, --no-rebase,
or --ff-only on the command line to override the configured default per
invocation.

From https://github.com/duyngit/lab4.github
 * branch      main    -> FETCH_HEAD
 * branch      duy1   -> FETC_1AD
Already up to date.
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit/lab4.github$ cd ..
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit$ vi duydang.txt
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit$ git add duydang.txt
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit$ git commit -m "push file ten duy2"
[duy2 18851ab] push file ten duy2
 1 file changed, 1 insertion(+)
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit$ git push origin duy2
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 16 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 368 bytes | 360.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote: Create a pull request for 'duy2' on GitHub by visiting:
remote:   https://github.com/duyngit/lab4.github/pull/new/duy2
remote:
  https://github.com/duyngit/lab4.github.git
* [new branch]  duy2 => duy2
duyngit@Duy's-MacBook-Pro:~/Documents/DATA/match/repo/duyngit$ git attach

```

## 4. Tiến hành merge, xử conflict và push thay đổi từ nhánh duy1 và duy2 vào nhánh chính (Main)

The screenshot displays two views of the GitHub repository 'duyngit/lab4\_github'. The left view shows the repository's main page with a commit history:

- A commit by 'duyngit' titled 'push file len duy1' was made 5 minutes ago.
- A commit by 'duyngit' titled 'Initial commit' was made 9 days ago.
- A commit by 'duyngit' titled 'push file len duy1' was made 5 minutes ago.
- A commit by 'duyngit' titled 'Duy edit file duydang.txt va them file duy...' was made 19 minutes ago.

The right view is a terminal window showing the command-line process:

```

duy4.github --duyngit@Duyx-MacBook-Pro:~/lab4.github--> git commit -m "push file len duy2"
[duy2 18851aa] push file len duy2
 1 file changed, 1 insertion(+)
Writing objects: 100% (5/5), done.
Delta compression using up to 16 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 368 bytes | 368.00 KIB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote: Create a pull request for "duy2" on GitHub by visiting:
remote:   https://github.com/duyngit/lab4.github/pull/new/duy2
remote: To https://github.com/duyngit/lab4.github.git
 * [new branch]    duy2 => duy2
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git checkout main
Switched to branch "main"
Your branch is up to date with 'origin/main'.
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git merge duy2
Auto-merging duydang.txt
CONFLICT (content): Merge conflict in duydang.txt
Automatic merge failed; fix conflicts and then commit the result.
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git add .
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git commit -m "merge nhanh duy1 vao main"
[main 2369f09] merge nhanh duy1 vao main
 1 file changed, 1 insertion(+)
Writing objects: 100% (3/3), done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote: Create a pull request for "duy2" on GitHub by visiting:
remote:   https://github.com/duyngit/lab4.github/pull/new/duy2
remote: To https://github.com/duyngit/lab4.github.git
2369f09..d2d58dc main => main
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git push origin main
Fast-forward
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git add duydang.txt
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git commit -m "push origin main"
[main 831] push origin main
 1 file changed, 1 insertion(+)
Writing objects: 100% (3/3), 368 bytes | 368.00 KIB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote: Create a pull request for "duy2" on GitHub by visiting:
remote:   https://github.com/duyngit/lab4.github/pull/new/duy2
remote: To https://github.com/duyngit/lab4.github.git
2369f09..d2d58dc main => main
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git push origin main
Fast-forward
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git add duydang.txt
duyngit@Duyx-MacBook-Pro:~/lab4.github--> git commit -m "push origin main"
[main 832] push origin main
 1 file changed, 1 insertion(+)
Writing objects: 100% (3/3), 368 bytes | 368.00 KIB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0

```

The image shows a GitHub repository page for `duyngit/lab4_github` and a terminal window displaying the contents of `duydang.txt`.

**GitHub Repository Page:**

- Repository Name:** `duyngit/lab4_github`
- Code Tab:** `duy2` had recent pushes 2 minutes ago.
- Commits:**
  - `duyngit push file len duy1` 5 minutes ago
  - `duydang.txt push file len duy1` 5 minutes ago
  - `duyngit2 test` Duy edit file `duydang.txt` va them file `duy...` 19 minutes ago
- README.md:** lab4\_github
- About:** No description, website, or topics provided.
- Releases:** No releases published. Create a new release.
- Packages:** No packages published. Publish your first package.

**Terminal Session:**

```
Dang Ngoc Duy ne
edit them 1 dong ne
them 1 dong tu nhanh duy2 --giu lai dong duy2
~
```

The terminal window shows the content of `duydang.txt` in vi mode. The command `:wq` is visible at the bottom, indicating the user has finished editing and saved the changes.

The screenshot shows a Mac desktop with a GitHub repository page for 'duyngit/lab4.github'. The repository has 1 pull request, 0 stars, and 0 forks. It contains files like README.md, duydang.txt, and duydang2.test. Below the code tab, there's an 'About' section with a note: 'No description, website, or topics provided.' The terminal window to the right shows a git merge session between 'main' and 'duy1'. It includes commands like 'git merge tool duy1', 'git merge duy1', and 'git commit -m "merge nhánh duy1 vào main"'. The terminal also shows the creation of a file 'duydang2.test' and pushing changes to origin.

## 5. Xem lại lịch sử commit, so sánh phiên bản (git diff), phục hồi phiên bản (git revert)

The screenshot shows a terminal window displaying the output of the 'git log' command for the 'lab4.github' repository. The log shows several commits:

- commit 90734eb2475804f77c707570ca1844a1b32c1614 (HEAD --> main, origin/main, origin/HEAD)
  - Merge: d2d58dc 18851a8
  - Author: duyngit <duyngit24@gmail.com>
  - Date: Thu Jan 14 22:39:20 2021 +0700
  - xu conflict va merge duy2 vao main
- commit 18851a8237f8b4e896a87b03cccd61a403a660585 (origin/duy2, duy2)
  - Author: duyngit <duyngit24@gmail.com>
  - Date: Thu Jan 14 22:34:44 2021 +0700
  - push file len duy2
- commit d2d58dc5631628640536ddc6726c23cc9ea6e815 (origin/duy1, duy1)
  - Author: duyngit <duyngit24@gmail.com>
  - Date: Thu Jan 14 22:32:03 2021 +0700
  - push file len duy1
- commit 2369fd9a99b486157107681ab991deb5a35caa52
  - Author: duyngit <duyngit24@gmail.com>
  - Date: Thu Jan 14 22:18:16 2021 +0700
  - Duy edit file duydang.txt va them file duydang2.test
- commit d75312939ea46a9deee7779a0965066c14b5894d
  - Author: root <duydang@Duy-MacBook-Pro.local>
  - Date: Wed Jan 6 11:28:24 2021 +0700
  - Duy Dang upload file .txt
- commit f145460d23e98b18ce9a10563755b9a83db14994
  - Author: duyngit <33681740+duyngit@users.noreply.github.com>
  - Date: Wed Jan 6 10:32:21 2021 +0700
  - Initial commit

```
diff --git a/duydang.txt b/duydang.txt
index 6b75748..abb8a9d 100644
--- a/duydang.txt
+++ b/duydang.txt
@@ -1,3 +1,3 @@
 Dang Ngoc Duy ne
 edit them 1 dong ne
 -them tu nhanh duy1
+them 1 dong tu nhanh duy2 --giu lai dong duy2
(END)
```

```
ZIP
diff --git a/duydang.txt b/duydang.txt
index 0ada7c2..abb8a9d 100644
--- a/duydang.txt
+++ b/duydang.txt
@@ -1,3 +1,3 @@
 Dang Ngoc Duy ne
 edit them 1 dong ne
 -them 1 dong tu nhanh duy2
+them 1 dong tu nhanh duy2 --giu lai dong duy2
(END)
```

The image shows a macOS desktop environment with three open windows:

- Terminal Window:** Shows the output of a `git diff` command comparing two versions of a file named `duydang.txt`. The diff highlights changes made by two users, Dang Ngoc Duy and Duy Dang.

```
diff --git a/duydang.txt b/duydang.txt
index 6b75748..0ada7c2 100644
--- a/duydang.txt
+++ b/duydang.txt
@@ -1,3 +1,3 @@
Dang Ngoc Duy ne
edit them 1 dong ne
-the them tu nhanh duy1
+them 1 dong tu nhanh duy2
(END)
```

- GitHub Browser Window:** Displays the GitHub repository for the file. It shows the commit history, which includes a merge conflict between the two authors. The commit message is "commit bo qua conflict".
- File Manager Window:** Shows a folder named `lab4\_github` containing several files, including screenshots from the process.

<!--The End-->