

## Create, Checkout, and Pull Git Merges

This guide will walk you through the process of creating branches on a single code repository. While this guide is intended for a single developer who would like to use pull requests on his/her own repository, it can be adapted to cases where multiple developers are working together. (See step for “Adding Collaborator”).

1. Find or create a code repository in GitHub. Clone this repository to your local directory if it hasn't been cloned already. (In my case, I have a completely empty repository).

The screenshot shows the GitHub interface for a repository named 'GitBranchExample' by user 'afhaque'. At the top, there are buttons for 'Watch' (1), 'Star' (0), and 'Fork' (0). Below this is a navigation bar with links for 'Code', 'Issues' (0), 'Pull requests' (0), 'Wiki', 'Pulse', 'Graphs', and 'Settings'. The main content area shows a commit history with one commit, 'afhaque Initial commit', which includes a 'README.md' file. The commit was made 4 minutes ago. There are also buttons for 'New pull request', 'New file', 'Find file', 'HTTPS' (with a URL), and 'Download ZIP'.

```
Ahmed@oatmealcentral MINGW64 ~
$ cd g:

Ahmed@oatmealcentral MINGW64 /g
$ cd rutgerswork

Ahmed@oatmealcentral MINGW64 /g/rutgerswork
$ git clone https://github.com/afhaque/GitBranchExample.git
Cloning into 'GitBranchExample'...
remote: Counting objects: 3, done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
Checking connectivity... done.

Ahmed@oatmealcentral MINGW64 /g/rutgerswork
$
```

The screenshot shows a Windows File Explorer window with the address bar set to 'This PC > Primary HDD (G:) > RutgersWork'. The search bar contains 'Search RutgersWork'. The main area displays a list of folders and files:

Name	Date modified	Type	Size
.idea	1/29/2016 3:24 PM	File folder	
0125-mw-class-content	2/2/2016 10:21 AM	File folder	
All-Classwork-Homework	1/29/2016 3:47 PM	File folder	
All-Lesson-Plans	1/29/2016 3:50 PM	File folder	
GitBranchExample	2/2/2016 12:36 PM	File folder	
InClassHerokuExample	2/2/2016 11:19 AM	File folder	
StudentWork	1/29/2016 8:55 PM	File folder	

2. Navigate to this folder in git bash.

```
Ahmed@oatmealcentral MINGW64 /g/rutgerswork
$ cd GitBranchExample/
Ahmed@oatmealcentral MINGW64 /g/rutgerswork/GitBranchExample (master)
$
```

3. Run the following commands:

```
git checkout master
git pull
```

In this example case, nothing will happen. It should simply say that you are already on master and that your branch is up-to-date. However, when collaborating this is an incredibly important step. Serious issues arise when two developers are working on “out-of-date” versions of code. If one developer’s version is behind the other developer, it becomes very tricky to address code conflicts when merging. Don’t let this happen if you can avoid it!!!!

```
Ahmed@oatmealcentral MINGW64 /g/rutgerswork/GitBranchExample (master)
$ git checkout master
Already on 'master'
Your branch is up-to-date with 'origin/master'.

Ahmed@oatmealcentral MINGW64 /g/rutgerswork/GitBranchExample (master)
$ git pull
Already up-to-date.
```

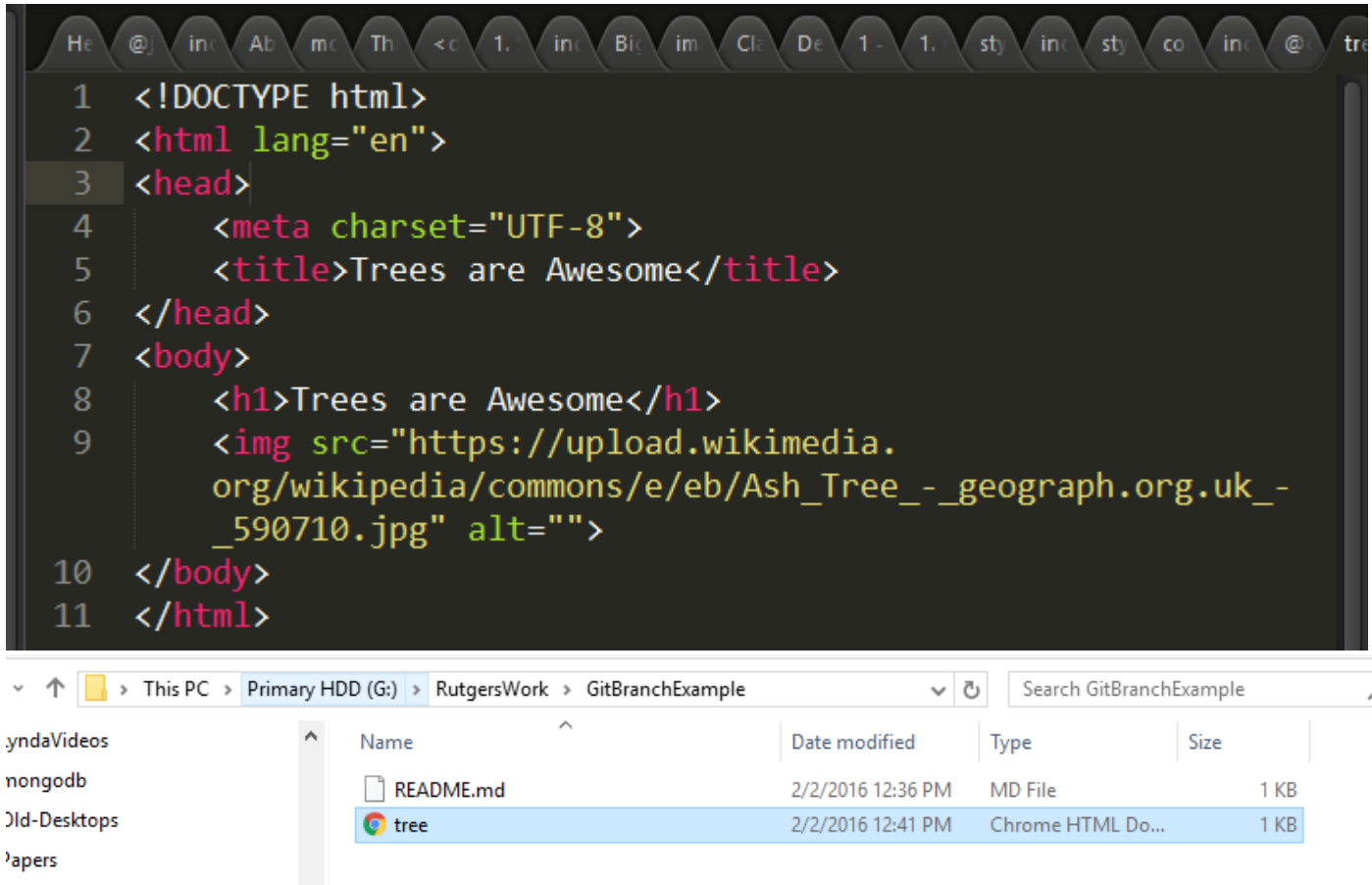
4. Next type git branch \_\_\_\_\_ (where you fill in the blank with a branch name of your choosing). Here we are telling git, “I’d like to make a new branch”.

```
Ahmed@oatmealcentral MINGW64 /g/rutgerswork/GitBranchExample (master)
$ git branch ahmedsbranch
```

5. Next type git checkout \_\_\_\_\_ (fill in the blank with the name of the branch you just created). Here we are simply telling git, “I’m working in this branch now”.

```
Ahmed@oatmealcentral MINGW64 /g/rutgerswork/GitBranchExample (master)
$ git checkout ahmedsbranch
Switched to branch 'ahmedsbranch'
```

6. Now, make some changes to the code inside the folder. In my case, I am going to add a file called tree.html that I made in Sublime.



```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <title>Trees are Awesome</title>
6 </head>
7 <body>
8   <h1>Trees are Awesome</h1>
9   
10 </body>
11 </html>
```

File Explorer: This PC > Primary HDD (G:) > RutgersWork > GitBranchExample

Name	Date modified	Type	Size
README.md	2/2/2016 12:36 PM	MD File	1 KB
tree	2/2/2016 12:41 PM	Chrome HTML Do...	1 KB

7. Next, go back to Git Bash and run the command `git add -A`. This is to tell git “Check for any and all changes I’ve made to the folder”.

```
Ahmed@oatmealcentral MINGW64 /g/rutgerswork/GitBranchExample (ahmedsbranch)
$ git add -A
```

8. Next, run the command `git commit -m “_____”` (where you fill in the space with a comment). This is to tell git “Confirm my changes locally”.

```
Ahmed@oatmealcentral MINGW64 /g/rutgerswork/GitBranchExample (ahmedsbranch)
$ git commit -m "I added an awesome page about trees"
[ahmedsbranch c58d7a1] I added an awesome page about trees
1 file changed, 11 insertions(+)
create mode 100644 tree.html
```

9. Next, run the command `git push origin _____` (where you fill in the blank with the branch name from before). This will tell git “Upload all of my changes only to this specific branch”

```
Ahmed@oatmealcentral MINGW64 /g/rutgerswork/GitBranchExample (ahmedsbranch)
$ git push origin ahmedsbranch
Username for 'https://github.com': afhaque
Password for 'https://afhaque@github.com':
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 484 bytes | 0 bytes/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/afhaque/GitBranchExample.git
 * [new branch]      ahmedsbranch -> ahmedsbranch
```


10. Now, navigate to Github.com and to the specific repository you are working with. You should see a new button with the label “Compare & Pull Request”). Click on it. This will take the information from the Branch and will request a “Pull Request”

The screenshot shows the GitHub interface for the repository 'afhaque / GitBranchExample'. At the top, there are buttons for 'Watch' (1), 'Star' (0), and 'Fork' (0). Below this is a navigation bar with 'Code', 'Issues' (0), 'Pull requests' (0), 'Wiki', 'Pulse', 'Graphs', and 'Settings'. The main content area starts with the text 'Here I will be demonstrating git branching and collaborating using github. — Edit'. Below this is a summary bar showing '1 commit', '1 branch', '0 releases', and '1 contributor'. A section titled 'Your recently pushed branches:' shows 'ahmedsbranch (less than a minute ago)' with a green 'Compare & pull request' button. Below this is a 'Branch: master' dropdown, a 'New pull request' button, and buttons for 'New file', 'Find file', 'HTTPS' (with a link to 'https://github.com/afhaque'), 'Download ZIP', and 'Download SRI'. The commit history shows an 'Initial commit' by 'afhaque' 15 minutes ago, with a file 'README.md' added. The 'README.md' file content is visible at the bottom.

11. Hit “Create a Pull Request”. This will submit the requested update for the other person (in this case, still you) to accept.

## Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).



base: **master** ... compare: **ahmedsbranch** ✓ Able to merge. These branches can be automatically merged.

I added an awesome page about trees

Write

Preview

AA ▾ B i “ < > 🔗 ⋮ ⋮ ⋮ @ 📌

Leave a comment

Attach files by dragging & dropping, [selecting them](#), or pasting from the clipboard.

📄 Styling with Markdown is supported

Create pull request

Labels

None yet

Milestone

No milestone


Assignee

No one—assign yourself

12. Next hit the button “merge pull request” and “Confirm Merge”.

## I added an awesome page about trees #1

Edit


 **Open** **afhaque** wants to merge 1 commit into **master** from **ahmedsbranch**

🗨 Conversation 0

📄 Commits 1

📄 Files changed 1



+11 -0



afhaque commented just now



Owner

No description provided.

  I added an awesome page about trees

c58d7a1

Add more commits by pushing to the **ahmedsbranch** branch on **afhaque/GitBranchExample**.

  **This branch has no conflicts with the base branch**  
Merging can be performed automatically.

Merge pull request

You can also [open this in GitHub Desktop](#) or view [command line instructions](#).

Labels

None yet

Milestone

No milestone

Assignee

No one—assign yourself

Notifications

🔊 Unsubscribe

You're receiving notifications because you authored the thread.

1 participant



## Collaborating Between Multiple Developers.

All of the steps mentioned above still apply for multiple developers. The only differences is that:

1. Developer #1 must copy the Git URL of Developer #2.
2. Developer #1 must add Developer #2 as a collaborator in Github. To do this go to Github.com. Navigate to the repository you'd like to collaborate on and go to settings. Then add Developer # as a collaborator.

The screenshot shows the GitHub interface for a repository named 'afhaque / GitBranchExample'. At the top, there are buttons for 'Watch' (0), 'Star' (0), and 'Fork' (0). Below these are tabs for 'Code', 'Issues' (0), 'Pull requests' (0), 'Wiki', 'Pulse', 'Graphs', and 'Settings' (which is currently selected). On the left side, there is a sidebar with links to 'Options', 'Collaborators' (highlighted), 'Branches', 'Webhooks & services', and 'Deploy keys'. The main content area is titled 'Collaborators' and includes a link 'Push access to the repository'. It contains a message: 'This repository doesn't have any collaborators yet. Use the form below to add a collaborator.' Below this message is a search bar with the placeholder text 'Search by username, full name or email address'. The search bar contains the text 'ahmedrutgers'. To the right of the search bar is a button labeled 'Add collaborator'.