

# GitHub questions

## - What is GitHub?

GitHub Inc. is a web-based hosting service for version control using Git. It is mostly used for computer code. It offers all of the distributed version control and source code management (SCM) functionality of Git as well as adding its own features. It provides access control and several collaboration features such as bug tracking, feature requests, task management, and wikis for every project.

## - When was it created?

February 8, 2008

## - Why?

See „What is GitHub?“

## - By who?

Developed by Chris Wanstrath, PJ Hyett, Tom Preston-Werner and Scott Chacon using Ruby on Rails. On October 26, 2018 GitHub was acquired by Microsoft.

## - What similar platforms exist?

Bitbucket by Atlassian, GitLab (OpenSource)

## - Why would you use such a platform?

Supporting collaborative work (open source), as a backup and a method for project distribution as well as for the exploration of new projects.

Sources:

<https://en.wikipedia.org/wiki/GitHub>

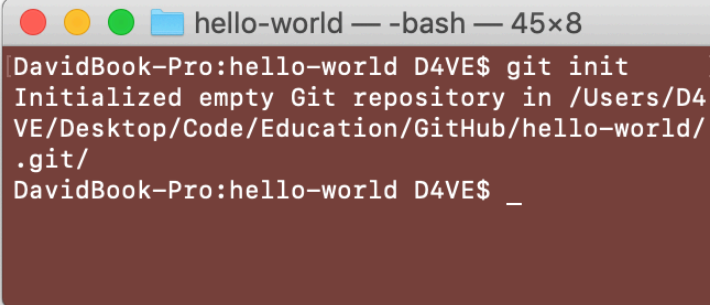
<https://bitbucket.org/>

<https://about.gitlab.com/>

# Git tutorial

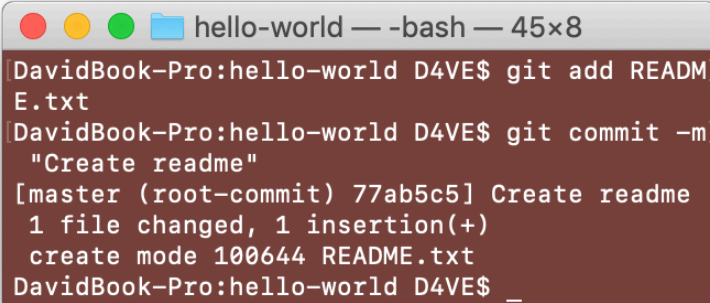
Using Git-it (<https://github.com/jlord/git-it-electron#what-to-install>).

1. Get Git: Install Git on your computer and configure your name and email. ✓
2. Repository: Create a new repository on your computer. ✓



```
hello-world — -bash — 45x8
DavidBook-Pro:hello-world D4VE$ git init
Initialized empty Git repository in /Users/D4VE/Desktop/Code/Education/GitHub/hello-world/.git/
DavidBook-Pro:hello-world D4VE$ _
```

3. Commit To It: Create a file in your new repository, add something to that file and commit that change with Git. ✓



```
hello-world — -bash — 45x8
DavidBook-Pro:hello-world D4VE$ git add README.txt
DavidBook-Pro:hello-world D4VE$ git commit -m "Create readme"
[master (root-commit) 77ab5c5] Create readme
1 file changed, 1 insertion(+)
create mode 100644 README.txt
DavidBook-Pro:hello-world D4VE$ _
```

4. GitHubbin: Create a GitHub account and add your username to your Git config. ✓

5. Remote Control: Connect your local repository to a remote one and push changes to it. 

```
hello-world — -bash — 69x13
DavidBook-Pro:hello-world D4VE$ git remote add origin https://github.com/david145/hello_woorld.git
DavidBook-Pro:hello-world D4VE$ git push origin master
Counting objects: 3, done.
Writing objects: 100% (3/3), 220 bytes | 220.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
remote:
remote: Create a pull request for 'master' on GitHub by visiting:
remote:   https://github.com/david145/hello_woorld/pull/new/master
remote:
To https://github.com/david145/hello_woorld.git
 * [new branch]      master -> master
DavidBook-Pro:hello-world D4VE$ _
```

6. Forks And Clones: Fork a project from [GitHub.com](https://github.com) and clone it locally. 

```
patchwork — -bash — 72x21
DavidBook-Pro:GitHub D4VE$ git clone https://github.com/david145/patchwork.git
Cloning into 'patchwork'...
remote: Enumerating objects: 18, done.
remote: Counting objects: 100% (18/18), done.
remote: Compressing objects: 100% (15/15), done.
remote: Total 312056 (delta 7), reused 7 (delta 1), pack-reused 312038
Receiving objects: 100% (312056/312056), 117.16 MiB | 16.32 MiB/s, done.
Resolving deltas: 100% (143420/143420), done.
DavidBook-Pro:GitHub D4VE$ cd patchwork/
DavidBook-Pro:patchwork D4VE$ git remote -v
origin https://github.com/david145/patchwork.git (fetch)
origin https://github.com/david145/patchwork.git (push)
DavidBook-Pro:patchwork D4VE$ git remote add upstream https://github.com/jlord/patchwork.git
DavidBook-Pro:patchwork D4VE$ git remote -v
origin https://github.com/david145/patchwork.git (fetch)
origin https://github.com/david145/patchwork.git (push)
upstream https://github.com/jlord/patchwork.git (fetch)
upstream https://github.com/jlord/patchwork.git (push)
DavidBook-Pro:patchwork D4VE$ _
```

7. Branches Aren't Just For Birds: Add a branch, locally, to your forked repository to work on your changes. ✓

```
DavidBook-Pro:patchwork D4VE$ git branch add-david145
DavidBook-Pro:patchwork D4VE$ git checkout add-david145
Switched to branch 'add-david145'
DavidBook-Pro:patchwork D4VE$ git status
On branch add-david145
Untracked files:
  (use "git add <file>..." to include in what will be committed)

    CONTRIBUTORS/add-david145.txt

nothing added to commit but untracked files present (use "git add" to track)
DavidBook-Pro:patchwork D4VE$ git add CONTRIBUTORS/add-david145.txt
DavidBook-Pro:patchwork D4VE$ git commit -m "Add david145 as contributor"
[add-david145 e72faec9cf] Add david145 as contributor
1 file changed, 1 insertion(+)
 create mode 100644 CONTRIBUTORS/add-david145.txt
DavidBook-Pro:patchwork D4VE$ git push origin add-david145
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 350 bytes | 350.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
remote:
remote: Create a pull request for 'add-david145' on GitHub by visiting:
remote:   https://github.com/david145/patchwork/pull/new/add-david14
remote:
To https://github.com/david145/patchwork.git
 * [new branch]      add-david145 -> add-david145
DavidBook-Pro:patchwork D4VE$ _
```

8. It's A Small World: Add a collaborator to your project. ✓

9. Pull Never Out Of Date: Keep your file up to date by pulling in changes from collaborators. ✓

10. Requesting You Pull Please: Submit a Pull Request to the original Patchwork repository. ✓

## Add david145 as contributor #26581

**Merged** reporobot merged 1 commit into `jlord:gh-pages` from `david145:add-david145` a minute ago

Conversation 0 Commits 1 Checks 0 Files changed 1

**david145** commented a minute ago

No description provided.

Commit: Add david145 as contributor e72faec

reporobot merged commit 576f736 into `jlord:gh-pages` a minute ago [Revert](#)

**Pull request successfully merged and closed**

You're all set—the `david145:add-david145` branch can be safely deleted. [Delete branch](#)

11. Merge Tada: Merge your branch locally, delete the branch and pull from upstream. ✓

```
patchwork — -bash — 67x15
DavidBook-Pro:patchwork D4VE$ git checkout gh-pages
Switched to branch 'gh-pages'
Your branch is up to date with 'origin/gh-pages'.
DavidBook-Pro:patchwork D4VE$ git merge add-david145
Updating 3caca2adae..e72faec9cf
Fast-forward
 CONTRIBUTORS/add-david145.txt | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 CONTRIBUTORS/add-david145.txt
DavidBook-Pro:patchwork D4VE$ git branch -d add-david145
Deleted branch add-david145 (was e72faec9cf).
DavidBook-Pro:patchwork D4VE$ git push origin --delete add-david145
To https://github.com/david145/patchwork.git
 - [deleted]          add-david145
DavidBook-Pro:patchwork D4VE$
```

```
DavidBook-Pro:patchwork D4VE$ git pull upstream gh-pages
remote: Enumerating objects: 8, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (4/4), done.
From https://github.com/jlord/patchwork
* branch                gh-pages    -> FETCH_HEAD
* [new branch]          gh-pages    -> upstream/gh-pages
Updating e72faec9cf..8a5d54ae5c
Fast-forward
 index.html | 26 ++++++++-----
 1 file changed, 13 insertions(+), 13 deletions(-)
DavidBook-Pro:patchwork D4VE$ _
```

# Git terms

## - Repository

They're easiest to imagine as a project's folder. A repository contains all of the project files (including documentation), and stores each file's revision history.

## - Commit

A commit, or "revision", is an individual change to a file (or set of files).

## - Push

Pushing refers to sending your committed changes to a remote repository, such as a repository hosted on GitHub.

## - Branch

A branch is a parallel version of a repository. It is contained within the repository, but does not affect the primary or master branch allowing you to work freely without disrupting the "live" version.

## - Fork

A fork is a personal copy of another user's repository that lives on your account. Forks allow you to freely make changes to a project without affecting the original.

## - Merge

Merging takes the changes from one branch (in the same repository or from a fork), and applies them into another.

## - Clone

A clone is a copy of a repository that lives on your computer instead of on a website's server somewhere, or the act of making that copy.

## - Pull

Pull refers to when you are fetching *in* changes *and* merging them.

### **- Pull request**

Pull requests are proposed changes to a repository submitted by a user and accepted or rejected by a repository's collaborators.

*Source:*

<https://help.github.com/articles/github-glossary/>