

GitHub 101

By: Omar Elazhary

Borrows ideas, concepts, and material from the official GitHub guide at <https://guides.github.com>

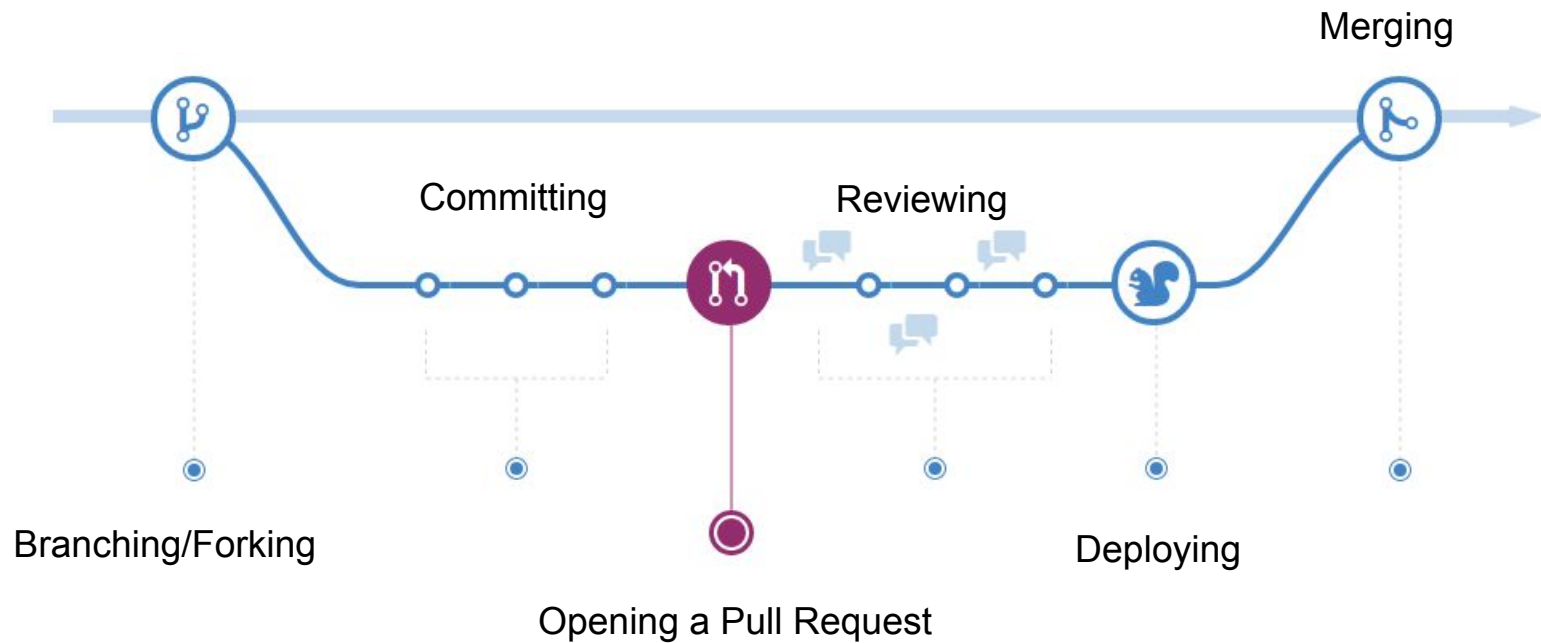
Agenda

- The GitHub Flow
- Creating Your Own Repo
- Adding Core Team Members
- Making a Contribution (Pull Requests)
 - Forking/Cloning/Branching
 - Committing
 - Pushing
 - Merging
 - Resolving Conflicts

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- **The GitHub Flow**
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The GitHub Flow



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Creating Your Own Repo

Via the CLI

```
> git init example
```

```
Initialized empty Git repository in /tmp/example/.git/
```

Creating Your Own Repo

On GitHub

Owner

Repository name

PUBLIC



hubot ▾

/

hello-world



Great repository names are short and memorable. Need inspiration? How about **petulant-shame**.

Description (optional)

Just another repository



Public

Anyone can see this repository. You choose who can commit.



Private

You choose who can see and commit to this repository.



Initialize this repository with a README

This will allow you to `git clone` the repository immediately. Skip this step if you have already run `git init` locally.

Add .gitignore: **None** ▾

Add a license: **None** ▾



Create repository

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Adding Core Team Members

The screenshot shows the GitHub repository settings page for 'omazhary / postman-ruby'. The repository is marked as 'Private'. At the top right, there are buttons for 'Unwatch' (1), 'Star' (0), and 'Fork' (0). Below these are tabs for 'Code', 'Issues' (0), 'Pull requests' (0), 'Projects' (0), 'Wiki', 'Settings' (which is highlighted with an orange bar), and 'Insights'. On the left side, there is a sidebar with links to 'Options', 'Collaborators' (which is highlighted with an orange bar), 'Branches', 'Webhooks', 'Integrations & services', and 'Deploy keys'. The main content area is titled 'Collaborators' and includes a sub-header 'Push access to the repository'. It displays a list of collaborators, currently showing 'Matthieu Foucault' with the username 'matthieu-foucault'. Below the list, there is a search bar with the text 'Search by username, full name or email address' and a note: 'You'll only be able to find a GitHub user by their email address if they've chosen to list it publicly. Otherwise, use their username instead.' At the bottom right of the search bar is an 'Add collaborator' button.

omazhary / postman-ruby Private

Unwatch 1 Star 0 Fork 0

<> Code ! Issues 0 Pull requests 0 Projects 0 Wiki Settings Insights

Options

Collaborators


Branches

Webhooks

Integrations & services

Deploy keys

Collaborators Push access to the repository

 **Matthieu Foucault** matthieu-foucault X

Search by username, full name or email address

You'll only be able to find a GitHub user by their email address if they've chosen to list it publicly. Otherwise, use their username instead.

Add collaborator

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Making a Contribution

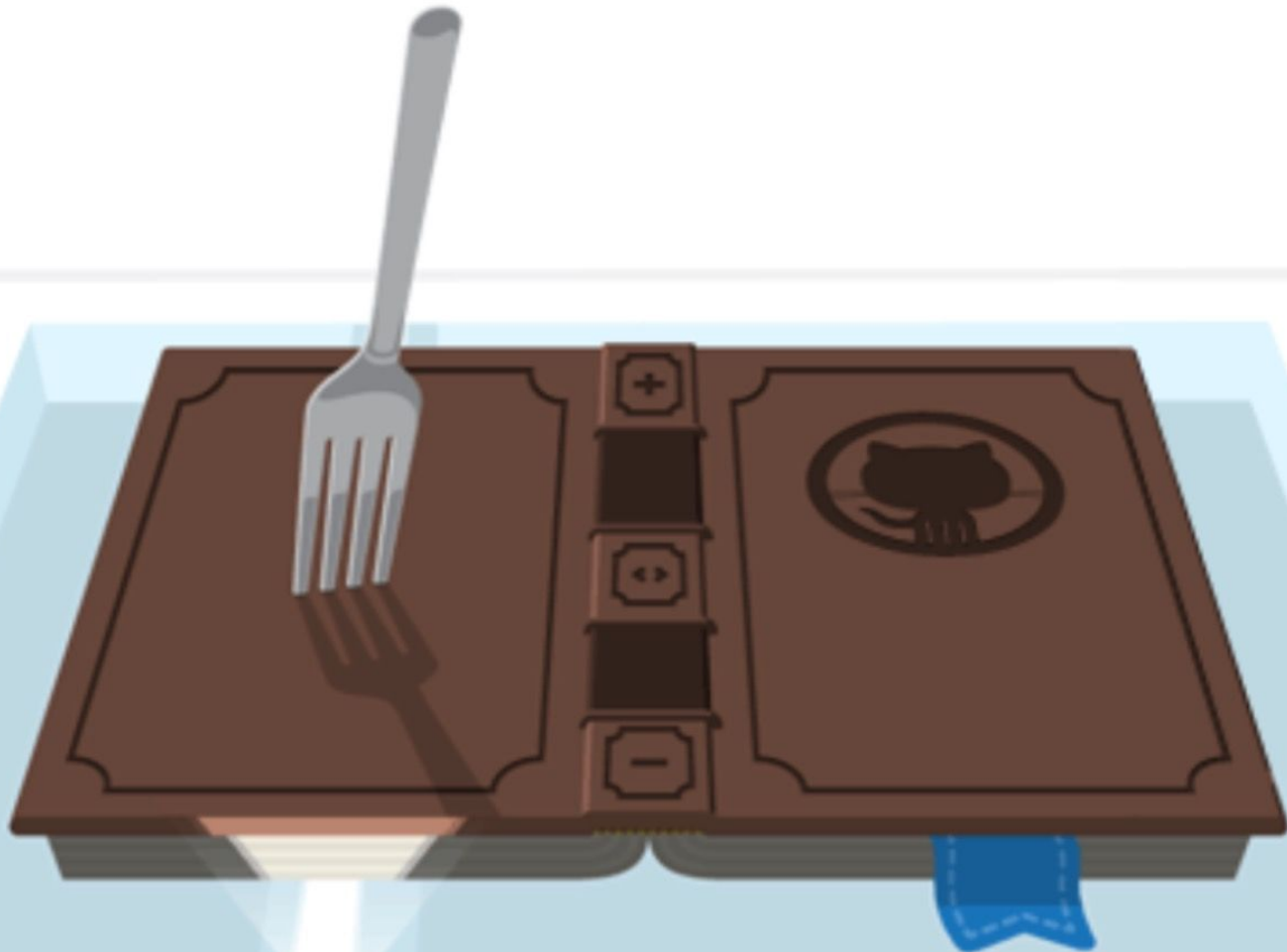
- A.K.A. Pull Request (PR for short)
- We'll create a project:
 - Creating a simple "*Hello World!*" project
 - Setting the project up for contributions
 - Contributing to the project
- Done in separate groups of 5~6 members
 - Each group must have a core team member
- The following slides show the workflow we'll follow on a sample ruby project

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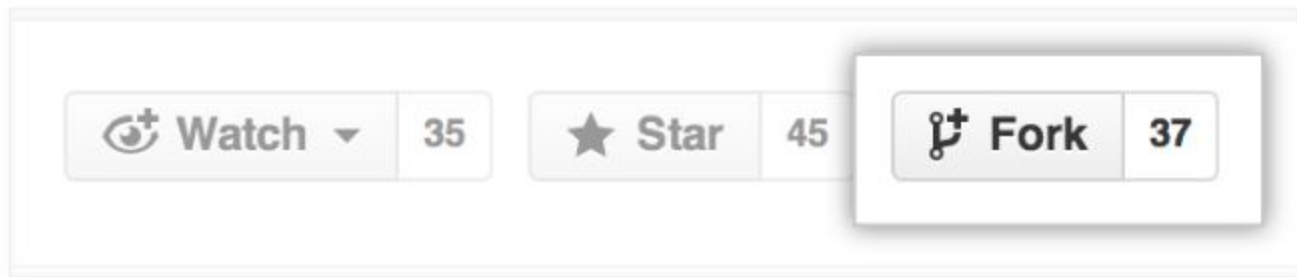
Making a Contribution

Forking (if you don't have push privileges)



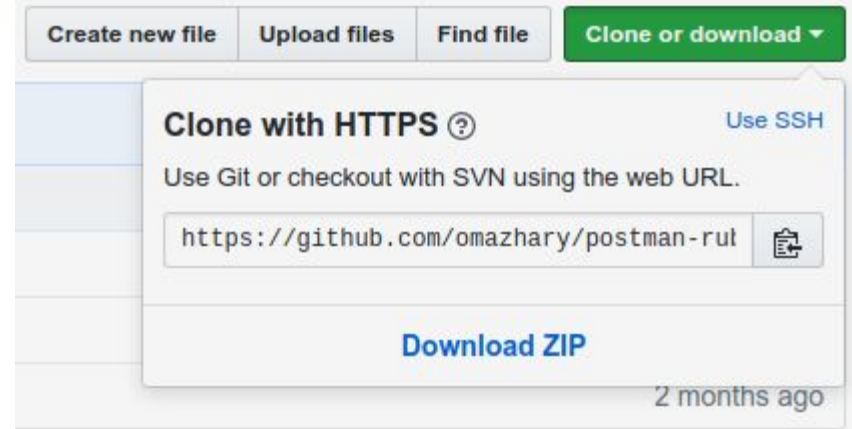
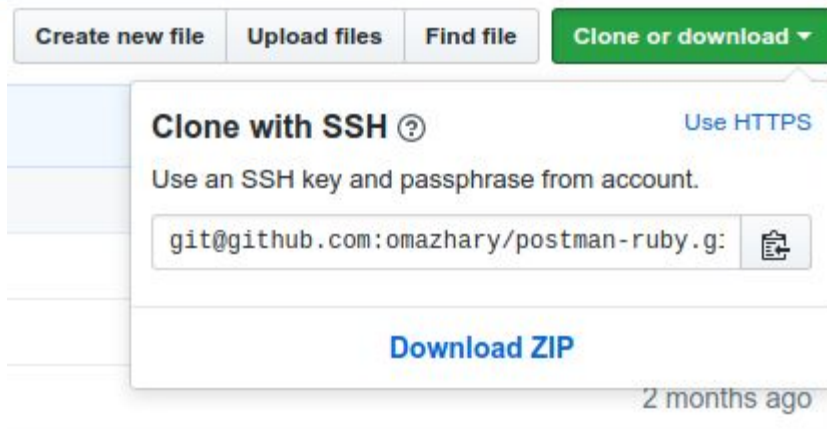
Making a Contribution

Forking (if you don't have push privileges)



Making a Contribution

Cloning



```
> git clone <repo_URI>
```

```
Cloning into 'postman-ruby'...
```

```
Username for 'https://github.com': omazhary
```

```
Password for 'https://omazhary@github.com':
```

```
remote: Counting objects: 10, done.
```

```
remote: Total 10 (delta 0), reused 0 (delta 0), pack-reused 10
```

```
Unpacking objects: 100% (10/10), done.
```

```
Checking connectivity... done.
```

Making a Contribution

Branching

Just another repository — Edit

🕒 1 commit

🌿 1 branch



🌿 branch: **master** ▾

hello-world / [+](#)

Initial commit



hubot authored just now



[README.md](#)

Initial



README.md

Making a Contribution

Branching

Creating a new branch:

```
> git checkout -b new_branch  
Switched to a new branch 'new_branch'
```

Moving to an existing branch:


```
> git checkout master  
Switched to branch 'master'  
Your branch is up-to-date with 'origin/master'.
```

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Making a Contribution

Committing (via the web interface)

 **hubot / hello-world**

Unwatch 1

★ Star 0

🍴 Fork 0

<> Code

📄 Issues 0


🔗 Pull requests 0

📖 Wiki

📊 Pulse

📈 Graphs

⚙️ Settings

hello-world /  or [cancel](#)

<> Edit file

👁️ Preview changes

Spaces ▾

2 ▾

Soft wrap ▾

1 ▾

2

3

4

5

6


7

hello-world

Hi Humans!

Hubot here, I like Node.js and Coffeescript (that's what I'm made of!).

I've had tacos on the moon and find them far superior to Earth tacos.

 **Commit changes**

And mention moon tacos

☒ Commit directly to the `readme-edits` branch

☐ Create a **new branch** for this commit and start a pull request. [Learn more about pull requests.](#)

Commit changes

Cancel

Making a Contribution

Committing (via the CLI)

Checking for Changes:

```
> git status
On branch new_branch
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

    modified:   Gemfile

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

Making a Contribution

ProTip: `git diff`

```
> git diff

diff --git a/Gemfile b/Gemfile
index 9abba57..920d855 100644
--- a/Gemfile
+++ b/Gemfile
@@ -1,7 +1,7 @@
  # frozen_string_literal: true

  source 'https://rubygems.org'
- ruby '~> 2.3.0'
+ ruby '~> 2.3.1'

  gem 'mail'
  gem 'ruby-progressbar'
```

Making a Contribution

Committing (via the CLI)

Staging Changes:

```
> git add Gemfile
> git status
On branch new_branch
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    modified:   Gemfile
```

Making a Contribution

Committing (via the CLI)

Committing Changes:

```
> git commit -m 'Updates ruby version in Gemfile'
[new_branch 50b5fad] Updates ruby version in Gemfile

1 file changed, 1 insertion(+), 1 deletion(-)
```

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Making a Contribution

Pushing

Pushing Changes:

```
> git push origin HEAD:new_branch
Username for 'https://github.com': omazhary
Password for 'https://omazhary@github.com':
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 305 bytes | 0 bytes/s, done.
Total 3 (delta 2), reused 0 (delta 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/omazhary/postman-ruby.git
 * [new branch]      HEAD -> new_branch
```

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Making a Contribution

Merging (via the CLI)

Merging Changes:

```
> git pull origin master
Username for 'https://github.com': omazhary
Password for 'https://omazhary@github.com':
From https://github.com/omazhary/postman-ruby
 * branch                master      -> FETCH_HEAD
Already up-to-date.

> git checkout new_branch
Switched to branch 'new_branch'

> git merge master
Merge made by the 'recursive' strategy.
 postman.rb | 2 + -
1 file changed, 1 insertion(+), 1 deletion(-)
```

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Making a Contribution

Resolving Conflicts (via the CLI)

Merging Changes:

```
> git merge master
Auto-merging Gemfile
CONFLICT (content): Merge conflict in Gemfile
Automatic merge failed; fix conflicts and then commit the result.
```

Checking the Status:

```
> git status
On branch new_branch
You have unmerged paths.
  (fix conflicts and run "git commit")
Unmerged paths:
  (use "git add <file>..." to mark resolution)
    both modified:   Gemfile
no changes added to commit (use "git add" and/or "git commit -a")
```

Making a Contribution

Resolving Conflicts (via the CLI)

Resolving:

```
4 <<<<<<< HEAD
5 ruby '~> 2.3.1'
6 =====
7 ruby '~> 2.2.0'
8 >>>>>>> master
```

Making a Contribution

Resolving Conflicts (via the CLI)

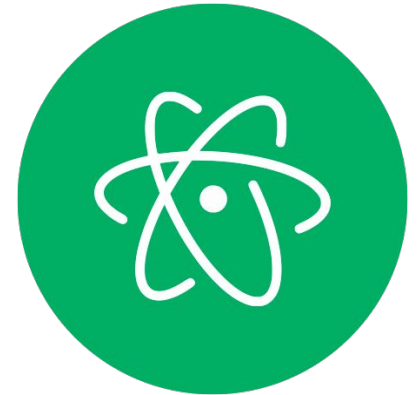
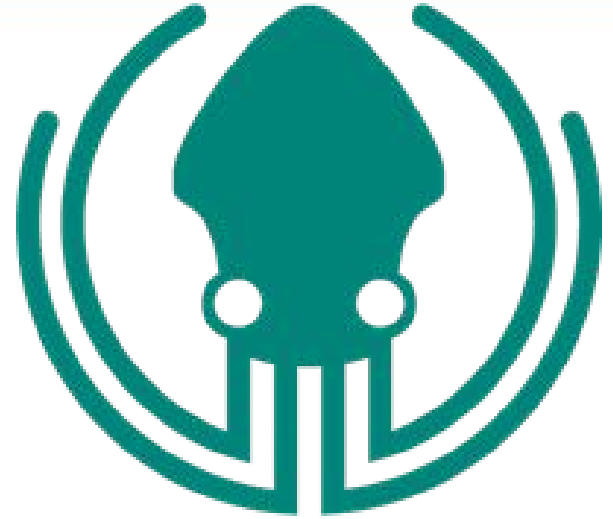
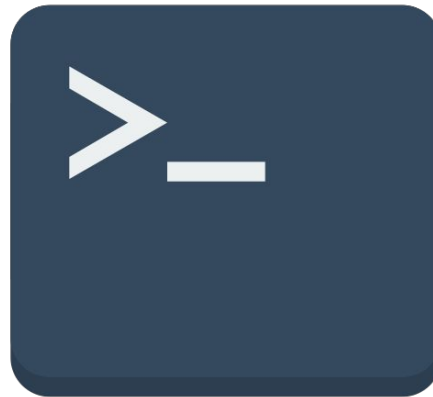
Resolving:

```
4 <<<<<<< HEAD
5 ruby '~> 2.3.1'
6 -----
7 ruby '~> 2.2.0'
8 >>>>>>> master
```

Updating:

```
> git add Gemfile
> git commit
[new_branch a666f18] Merge branch 'master' into new_branch
```

Making Life Easier



Extra Resources

<https://guides.github.com>

<https://try.github.io/levels/1/challenges/1>