2020 Edition

Github Cookbook

The Basics

Section 01

Before we cook

01 Before we start

About Author

My name is Jason Zhao. I am 2020 Summer Student at the University of Alberta Rehabilitation Robotics Lab . I am excited to introduce you to this training.

I am a 4th year computer engineering undergraduate student at the University of Alberta. Outside school, I enjoy spending time in the mountains, climbing and skiing.

About this CookBook

This CookBook is the compliment for the **GitHub Tutorial video** Links .

This CookBook will help you understand the basic of GitHub and teach you how to start using Github today.

This CookBook is design for people who have different levels of programming background. It is up to you to find your favourite way to incorporate Github into your project

Section 2

What are we Cooking?

(Contents)

02 Content

Please see Video #1

In this video, I lay out the **full content** for this training.

There are **6 videos in tota**l, do you need to watch it all of them?

Here are my suggestions. **Video 1**, I think it is important to understand the flow of the training.

The fundamentals videos are recommended if you never work git and GitHub before. However, if you already know the difference between Git and GitHub, have git install on your computer and what is GitHub flow, then I think you could skip **Video 2 and 3.**

Now when choosing which git tool you should use, I think **command line** is the most reliable tool to use, I think it is still easy to learn, however there is a little bit curve if you have not work with command line before. So, if you find it is too challenging or it is not your cup of tea, then skip it, there are still 2 other ways of achieve our tasks. That been said, command line will provide you the full functionalities of git, whereas Github.com and GitHub desktop can't.

In contrast, **GitHub.com is the simplest tool among all**, it takes about a couple clicks on the Github's website, and you don't have to download anything. However, Since you are only operating on the website, you can't make it connect to your local file just with this method, thus, you **can't use most of git's functionalities**. With that been said, if you are a researcher who doesn't do any coding, this is the prefect tool for you, Github.com will still provide you abilities to Commutate with your teammate and **create repositories and make small changes to them.**

Now, GitHub Desktop GUIs, which stands for Graphical user interface, you can understand it as it is an app, which you have to download on your computer. It is the **middle ground between Command line and GitHub.com**. It is easy to use, you can see your change more clearly and it maintains most of functionalities of git. If you need to do some coding for your project and you find command line is too hard to navigate after watch video #4, then this is the prefect tool for you!

So, Of course, it would be great to master all 3 tools, but I think being good **at least 2** of them would be proficient, you have more options and flexibilities for different projects, and in case one tool is not work for some reason, you always have backup plan.

Section 3

Cooking ingredients?

(Fundamentals)

03 Fundamentals-1 Git

Please see Video #2

What is “Git”?

Git is a version control system also known as a VCS. Now a VCS is basically some software designed to record changes made to a file or set of files overtime. This gives you the ability to revert or recall changes to a file or set of files after you've made them.

Install Git

For Windows user:

visit git-scm.com/download/win

For Mac user:

visit git-scm.com/download/mac

TODO: Install latest 64-bit version of “GIT”

Git Configuration

Now that we have Git installed, we need to set some Git configurations before we can actually start making commits.

If you never planning on using the command line method, then you can skip this step of setting up Git configurations, since the Github.com method does not use git locally, and Github.desktop will automatically do the confirmations for you with the GUI.

Nonetheless, it would still be nice to understand the concepts of git configuration. Git uses the config settings for your username and email address to generate a unique fingerprint for each of the commits that you create. You can't create commits without these settings. Again, if we are working on our command lines and don't set these configurations up, every time we try to commit, Git will just ask us to identify ourselves.

Need help with installing and config Git ??

Check out this extra tutorials:

For Windows: https://www.youtube.com/watch?v=eo00v2aw92Y

For Mac: https://www.youtube.com/watch?v=sJ4zr0a4GAs

03 Fundamentals-2 Github

Please see Video #3

What is Github?

Github is a collaboration platform built on top of Git.

One of the most important features GitHub has is it's ability to integrate collaboration seamlessly into your Git repository. Being able to discuss and collaborate changes made to your repository with other developers, contributors, and team members is what makes GitHub the industry leader at what they do. Some of these features include issues, poll requests, projects, and working with organizations and teams.

You can learn about these features at this link.

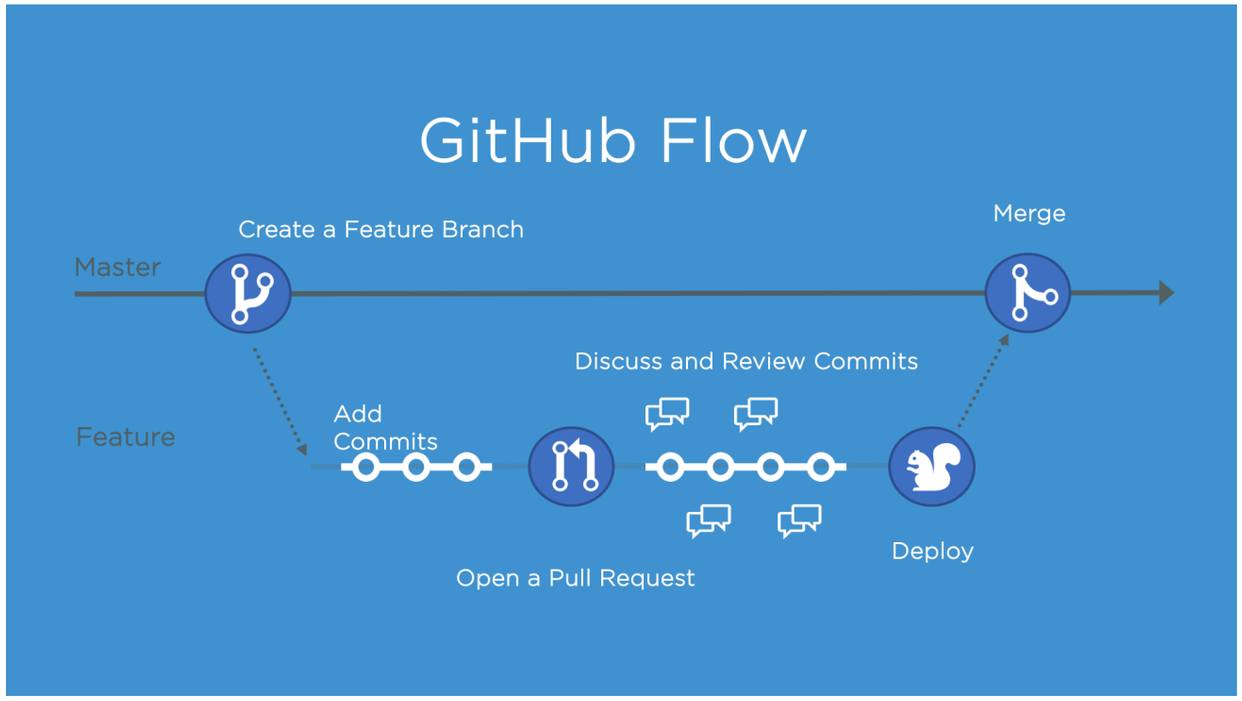
Want more practice on Github?

Check out courses in **GitHub Learning Lab**!
Introduction to Github
and Uploading your project to GitHub

GitHub Flow?

GitHub Flow is the work flow that we should follow when we use git and GitHub.

You can learn about this at this link and this video



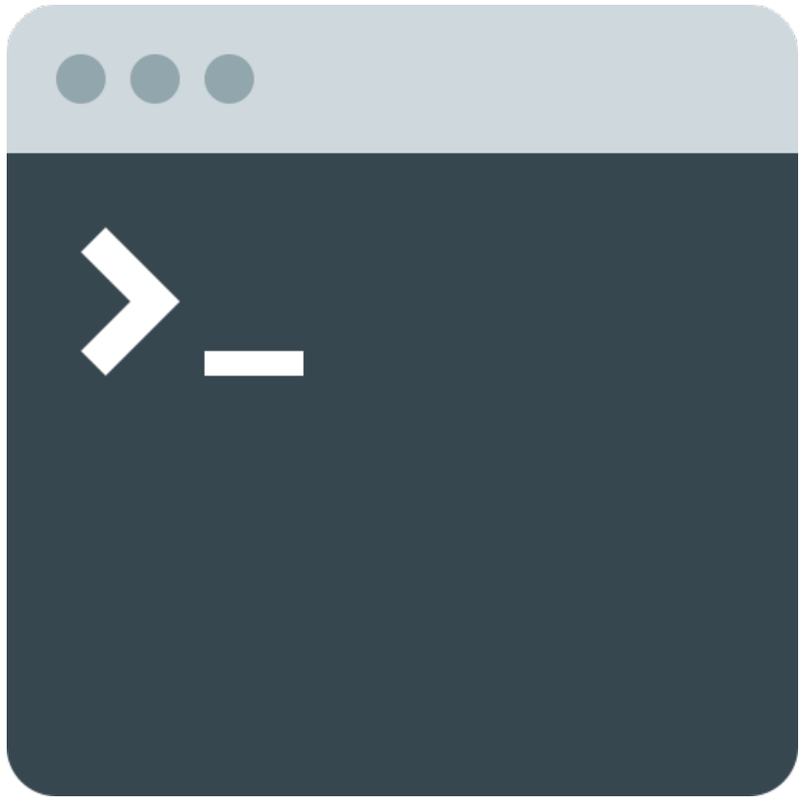
Section 4

How do we cook?

(Tools)

04 Git-tools

Go to this GitHub Repository



Please see Video #4

Pros; Able to use all Git's functionalities
Cons: Can be complicated for beginners

Please see Video #5

Pros: Very easier to use, you can crag and drop.
Cons: Cannot make a connection with your local files. Thus, cannot use most of Git's functionalities

Please see Video #6

Pros: Middle ground. Easy to use and maintain most of Git's functionalities.
Cons: Not consistent. When updates, you might have to re-learn.