

Git & GitHub Basics

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Disclaimer About the Basics

- Simplified, low-resolution definitions of terms
- GitHub (and many other VC systems) are capable of much more than *the basics*
- The terminal is popular vehicle for carrying out git commands, but it's not the only tool

Language for Using GitHub (and other similar VC systems)

- **Repository**

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Repository

- **Repository:** A directory or storage space where your projects can live.
- Often shortened to “repo”
- Can contain many different types of files, but is more useful for certain types over others

Local Repository

	Name	Date modified	Type	Size
	.git	8/3/2020 1:54 PM	File folder	
	Beckman-Materials	8/3/2020 1:48 PM	File folder	
	Glanz-Materials	8/4/2020 12:37 AM	File folder	
	Sullivan-Materials	8/3/2020 1:48 PM	File folder	
	.gitignore	8/3/2020 1:48 PM	Text Document	3 KB
	_config.yml	8/3/2020 1:48 PM	YML File	1 KB
	LICENSE	8/3/2020 1:48 PM	File	21 KB
	QRcode.png	8/3/2020 1:48 PM	PNG Image	5 KB
	README.html	8/3/2020 1:48 PM	Chrome HTML Do...	625 KB
	README.md	8/3/2020 1:48 PM	MD File	4 KB
	YYYYMM-short-title.pdf	8/3/2020 1:48 PM	Adobe Acrobat D...	1,187 KB
	YYYYMM-short-title.Rmd	8/3/2020 1:48 PM	RMD File	2 KB

Figure 1: Local Repo

GitHub Repository

mdbeckman / **JSM2020-Virtual**

Code Issues Pull requests Actions Projects Wiki Security Insights

master 1 branch 0 tags Go to file Add file Code

mdbeckman add to Q&A	f234ec1 11 hours ago	31 commits
Beckman-Materials	some notes to supplement MB segment & Jo's question	16 hours ago
Sullivan-Materials	add adam pdf	11 hours ago
.gitignore	ignore MB notes doc	4 days ago
LICENSE	Initial commit	5 days ago
QRcode.png	fix QR code & MB slide link	4 days ago
README.html	add to Q&A	11 hours ago
README.md	add to Q&A	11 hours ago
YYYYMM-short-title.Rmd	Initial commit	5 days ago
YYYYMM-short-title.pdf	Initial commit	5 days ago
_config.yml	Set theme jekyll-theme-tactile	4 days ago

README.md

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Figure 2: GitHub Repo

Cloning a Repository

- *Cloning* is the process of creating an identical copy of a Git Remote Repository (e.g. GitHub repo) to your local machine
- Often the first step joining a project with an existing repo!

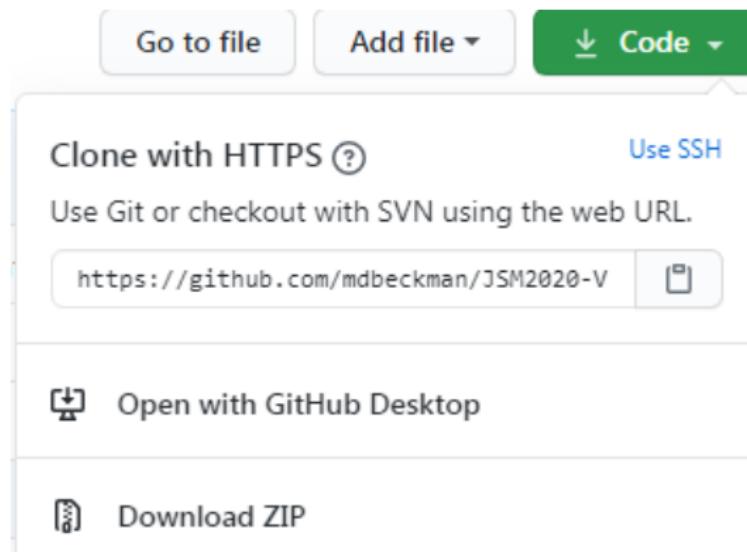


Figure 3: GitHub Clone

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- Saving changes to the files in your project on your local machine is just that. . . local!
- For your git repository to store and track these changes, they must be **committed**
- However, the “commit command” only captures a snapshot of the project’s currently staged changes
- These snapshots can be thought of as “safe” versions of the project

Pushing to and Pulling from a Repository

- *Pushing* is used to upload local repository content (e.g. files on your local machine) to a remote repository (e.g. GitHub repo)

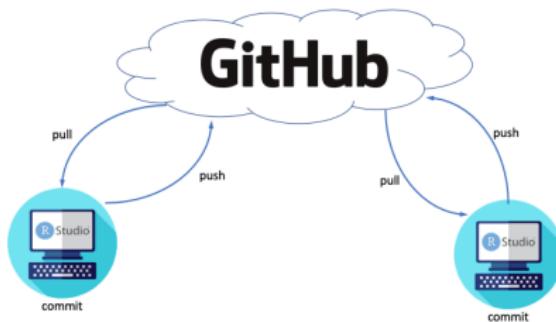


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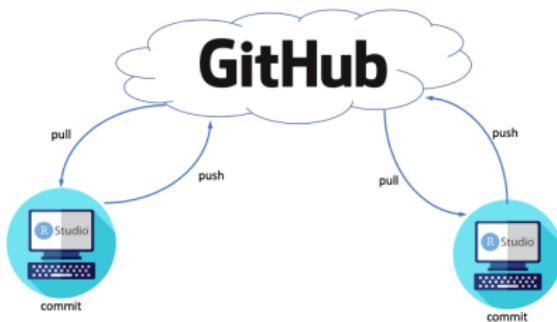


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- *Pulling* is used to fetch and download content from a remote repository and immediately update the local repository to match that content

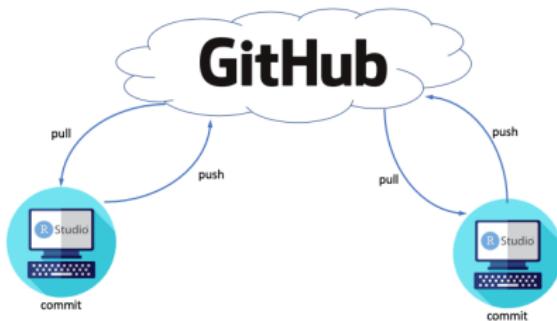


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Thank You

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<https://mdbeckman.github.io/JSM2020-Virtual/>