Using routes published on GitHub

V2 10-May-22

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Why use GitHub?

Users will want to use *GitHub* to get easy access to any improvements to a route after it is first released. The ability to download a ZIP archive is always available, but the free *GitHub Desktop* utility will download and unpack the archive, notify you of any improvements and, when required, seamlessly download and install them (and also uninstall them).

What are GitHub and Git?

GitHub is the world's largest hosting service for software. Digital assets such as Open Rails routes benefit just as much as software from this tracking capability.

Git is a free version control system designed to track the development of software projects. It was created to support the development of Linux and has become the leading version control system.

The free *GitHub Desktop* program includes a version of *Git* and communicates between your PC and the repositories (or repos) known to your free account at GitHub.com.

(Note that *GitHub Desktop* is for 64-bit Windows only.¹)

Public and private repositories

GitHub hosts public repositories that anyone can visit and download. Anyone can also own private repositories and may then choose to give access rights to individuals.

¹ For 32-bit Windows, many other graphical programs are available free (such as SourceTree) and Git can also be used from the command line using Git Bash.

Installing GitHub Desktop

Install GitHub Desktop

Browse to <u>http://desktop.github.com</u>, click on the *Download* button to download the installer, then run the installer.

Choose the free option:



Create an account at GitHub.com

This is only needed if you are going to create and publish content or contribute to someone else's project. To just use someone else's content, click on *Skip this step*:



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Finally, GitHub Desktop opens its launch page:



Downloading content using Clone

GitHub.com provides several ways to copy a remote repository to your local computer and you don't need a GitHub account to do this. Visit the URL for the remote repo on GitHub.com – e.g. <u>https://github.com/cjakeman3/New-Forest-route</u>

Code ① Issues 0 ℜ Pull requests 0	Actions III Projects 0	🕕 Security 🛛 📊 Insigl	Ounwatch	★ Star 0 ŸFork 0		
Open Rails standalone route by Rick Loader Manage topics				Edit		
2 commits	🖗 1 branch	🗊 0 packages		🟷 0 releases		
Branch: master		Create new fi	le Upload files Find	file Clone or download 🗸		
🐺 cjakeman3 added GLOBAL and Documents 🗔		Clor	ne with HTTPS 🔊	Use SSH		
Documents	added GLOBAL and Do	Use	Use Git or checkout with SVN using the web URL.			
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Download Zip

The simplest method is to download it as a Zip archive and then extract the files. However, this not the recommended method. *Open in GitHub Desktop* is the recommended method – see below.

Be warned that if the repository is large then the download may fail.

Once the files are extracted, then the hidden folder .git and the Zip archive may be deleted to save space.

Open in GitHub Desktop - recommended

This method has benefits:

- GitHub Desktop will show you whenever new content is available and make it available easily and very quickly.
- Files are downloaded separately, then decompressed, so large downloads are not likely to fail.
- You can use GitHub Desktop to switch between different versions of the repo.²
- The disk space taken by multiple versions is much less than using *Download Zip*.

You can download using the Git operation *Clone* either by starting at the GitHub website or from the *GitHub Desktop* program.

Since *GitHub Desktop* is already open on the launch page and offering to *Clone a repository*, we will use that option.

You will need the URL for the repository. If you don't have the URL, then search for the repo on <u>www.GitHub.com</u> and extract it from the *Clone with HTTPS* box:



Now you can clone a repository as follows.

² Provided the developer of the content has used a separate Git branch for each version.

Back at GitHub Desktop, choose Clone a repository from the Internet...

〇 <u>F</u> ile <u>E</u> dit <u>V</u> iew <u>R</u> epository <u>B</u> ranch <u>H</u> elp	- • ×
Let's get started! Add a repository to GitHub Desktop to start collaborating	
Clone a repository from the Internet	
+ Create a New Repository on your hard drive	
Add an Existing Repository from your hard drive	
ProTip! You can drag & drop an existing repository folder here to add it to Desktop	* • 07 * • • • • * • • • * • •

Clone a repository		×
GitHub.com	GitHub Enterprise Server	URL
Repository URL or GitHub (hubot/cool-repo)	username and repository	
github.com/cjakeman3/N	lew-Forest-route	
Local path		

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The progress bar completes and leads to the working screen for *GitHub Desktop*:



The Show in Explorer button takes you to the local repo which was just downloaded:

New-Fore	st-route			- □	×					
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File Home Share	View				~ 😗					
$\leftarrow \rightarrow \checkmark \uparrow$ Gearch New-Forest-route $\checkmark \checkmark$ Cearch New-Forest-route										
A Quick access	Name	Date modified	Туре	Size						
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Dictures	gitattributes	26/03/2016 20:22	GITATTRIBUTES File	1 KB						
Music	Nf3 timetable.xlsx	26/03/2016 20:23	XLSX File	48 KB						
	Readme for Users.doc	26/03/2016 20:23	DOC File	23 KB						
💾 Videos	Readme for Users	26/03/2016 20:23	Text Document	15 KB						
🐔 OneDrive	README.md	26/03/2016 20:23	MD File	1 KB						
This PC										
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b Music										
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Videos										
🏪 Local Disk (C:)										
Open Rails										
routes										
New-Forest 🗸										
8 items				8						

Inside your working folder *New-Forest-route* are your content folders and files and also the hidden folder *.git* which contains the internal files for the repo. *GitHub Desktop* manages this folder for you.

Moving between versions

If different versions of the content are published to the remote repo, then you can use *GitHub Desktop* to switch between versions.

Once all the commits are stored on your local computer, then switching to a different version will change the files and folders in your working folder. All the committed files are still securely stored in the *.git* folder, so you can switch safely between versions as often as you wish.

In this example, we have two branches, "master" and "modern-era".

🗘 File	Edit	View	Repository	Branch	Help		
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• New-For	rest-rou	Histo	ory		Ctrl+2		
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Version 2.0		Shov	v stashed chang	ges	Ctrl+H		
🛄 cjakeman3 comm		Togg	le full screen		F11		
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Initial comm	it 3 comm	itted Dec	9, 2019				

Find the branches in your repo with:

File Edit View Repository	Branch Help				- 0	×
Current repository New-Forest-route	P Current branch master	► C Fetch Last fe	origin tched just now			
Changes History	Branches	Pull requests	5			
0 changed files	Filter	New	branch			
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	✓ master	7 с	days ago	y suggestions for		
	Other branches					
	🎾 origin/modern-era	24 min	utes ago			
		origin/modern-era		Open in Visual St	udio Code	
				Snow	in Explorer	
Summary (required)						
Description			ser	View	on GitHub	
1+						
master is a protected branch. Want to						
switch branches?						
Commit to master	} ⊷ Choose a bra	nch to merge into master				

and switch from "master" branch to "modern-era" branch just by clicking the option:

This action selects just those files in your working folder which differ and changes them to match the chosen branch. You can see which branch you are on with:

a 🎧 File Edit View Repo	sitory Branch Help	
Current repository New-Forest-route	Current branch modern-era	Fetch origin Last fetched 2 minutes a
Changes Histo	ry Branches	Pull requests
P Select branch to compare	Filter	New branch
Update Version.txt Cjakeman3 committed 25 minutes Version 3.0	ago Perfault branch master Becent branches	7 days ago
Version 2.0	✓ modern-era	26 minutes ago
 Cjakeman3 committed 7 days ago Version 1.0 Ciakeman3 committed 7 days ago 		\searrow

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Fetching new commits

New commits are visible on GitHub.com under the *commits* tab:

□ cjakeman3 / New-Forest-route 1 ★ Star 0 § Fork 0											
<> Code	() Issues 0	្រំ) Pull requests 0	Actions	III Projects 0	🗉 Wiki	C Security	Insights	🔅 Settin	gs		
Open Rails Manage topics	s standalone ro s	oute by Rick Loader								E	Edit
Ð	6 commits	₽ 1 bran	ch	🗊 0 packa	ges	♡ 0 releases		1	1 cont	ributor	
Branch: mas	ster	l request				Create new fi	le Upload files	Find file	Clone	or download	d -
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which leads to:

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Branch: mas	ter▼ hits on Dec 14, 2	019											
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Vers	ion 2.0 cjakeman3 commit	tted 27 r	minutes ago	0						Ê	7b95ae	4	>
Vers	ion 1.0 cjakeman3 commit	tted 27 r	minutes ago							Ê	cc79cf	F9	>
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However *GitHub Desktop* will check this for you automatically, fetching the commit files³ but not including them into your repo until you "pull" them in from "origin".



This shows we are currently at Version 2.0 and Version 3.0 has been fetched automatically.

By clicking on *Pull origin*, we are including the new commit into our local copy of the repo and making that latest commit the current one in our working folder.

³ Storing them inside .git in a local copy of the remote repo "origin".

Notified about new commits

GitHub Desktop won't notify you that new content has been committed until you launch it and, if you have more than one repo, selected the repo of interest.

The GitHub.com website offers a Watch button which appears to provide notifications.



This option (which is only seen when you have registered for an account on GitHub.com) does indeed send notifications by email, but these are not available for the individual commits which is what we need..

The simplest solution I have found (which you can also use for any website) is to register at <u>www.followthatpage.com</u>. This simple, free site has been on-line for ages and will send you a short email whenever it detects a change on a public page.



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