

## Git Branch Management

**A number of programs are required for Branch management using GitLab**

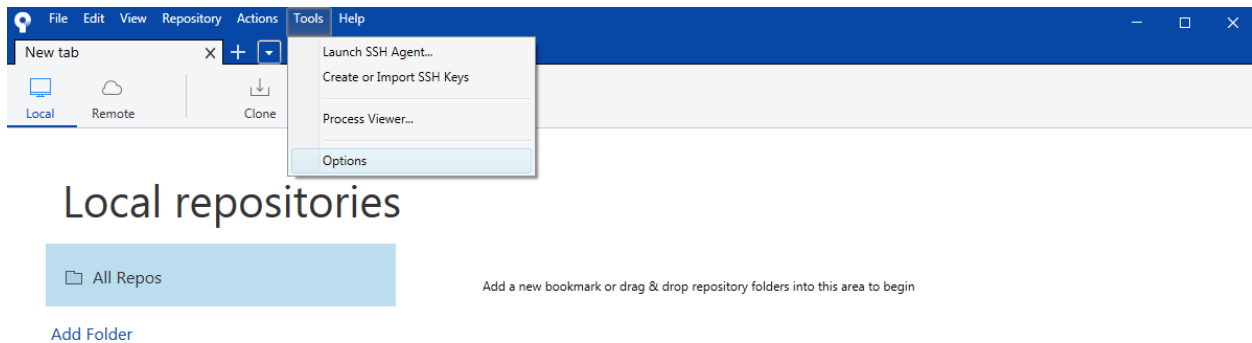
**Sourcetree:** <https://www.sourcetreeapp.com/> This is a graphics interface overlay for GitLab

**VirtualBox:** <https://www.virtualbox.org/wiki/Downloads> This allows the creation of a virtual machine, used to create the appropriate environment for editing the website.

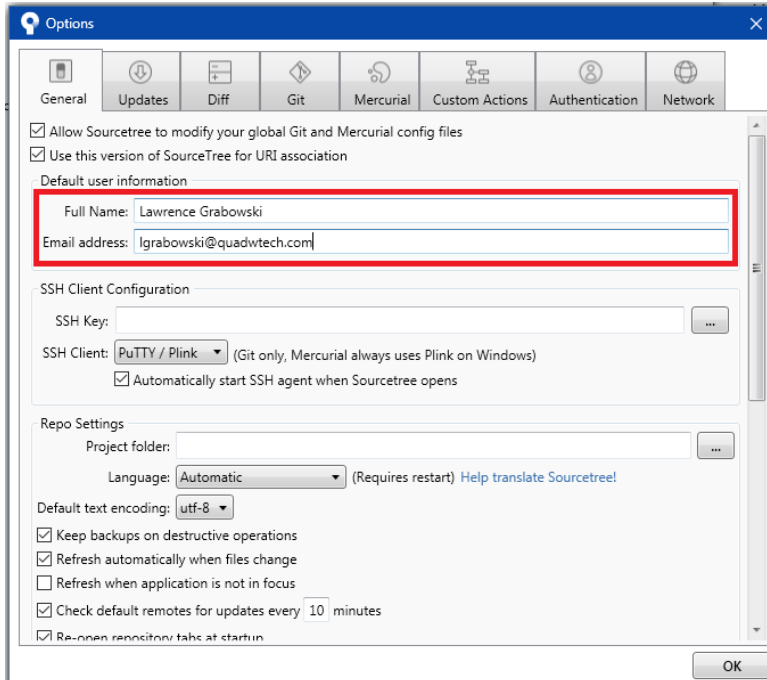
**Vagrant:** <https://www.vagrantup.com/downloads.html> This allows the creation of the assets used in the virtual machine created by VirtualBox.

**Once the above are downloaded and installed, use SourceTree to generate an SSH Key to link with GitLab**

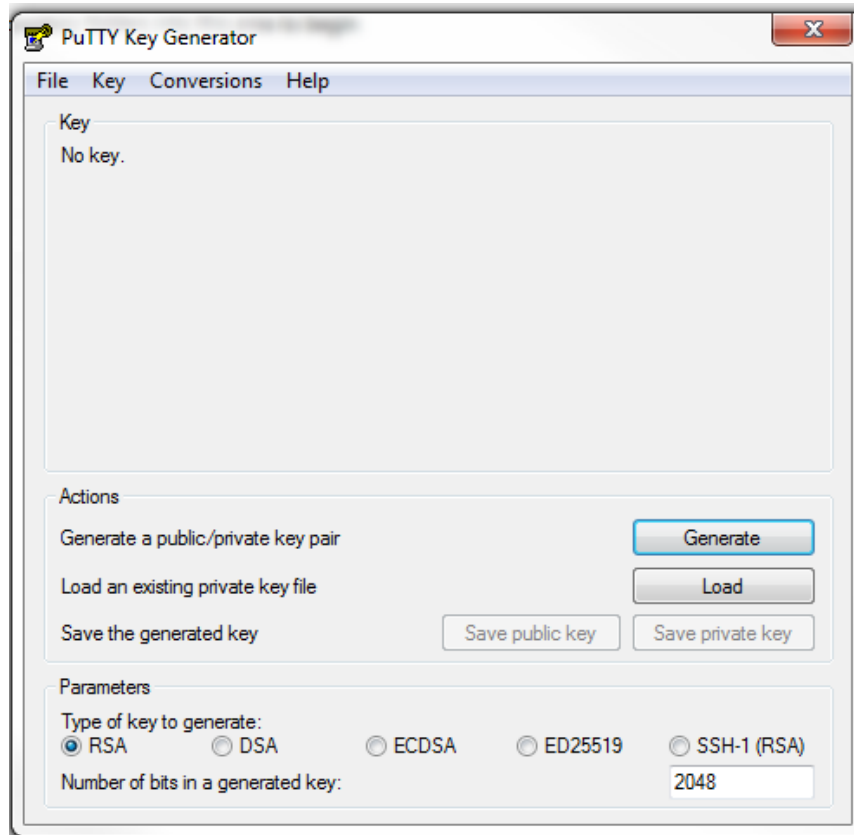
**Select Tools > Options**



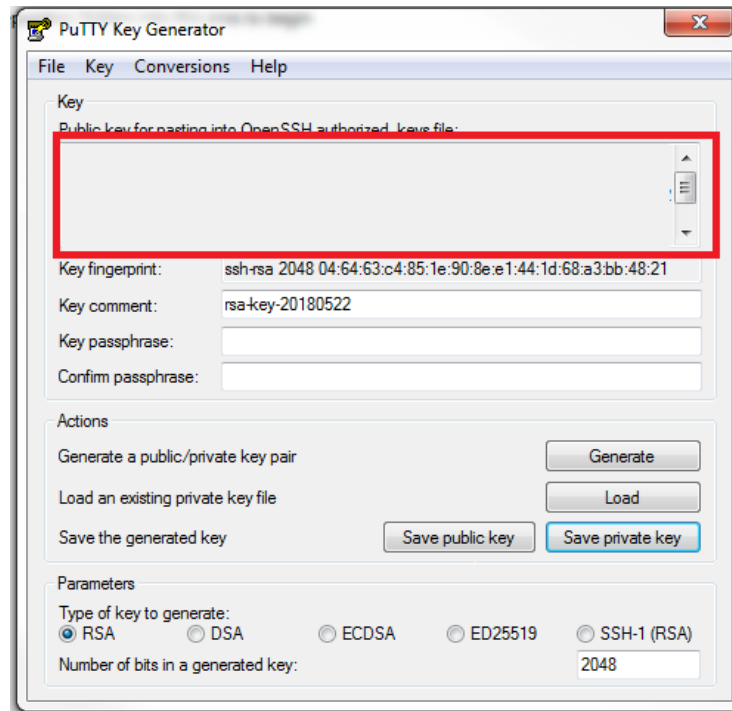
Fill out the **Full Name** and **Email address** fields, then hit OK. Note that these fields will be used for tracking ownership of changes in the repository.



Select Tools>Create or Import SSH Key:



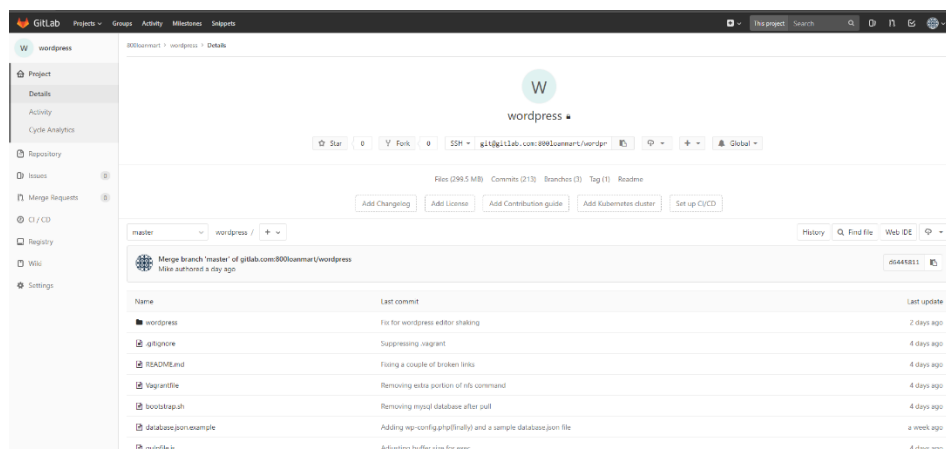
Select **Generate**. This will produce the **SSH Key** used for authentication. Note that the key is generated by shaking your mouse on the screen. When it is complete, the key will appear.



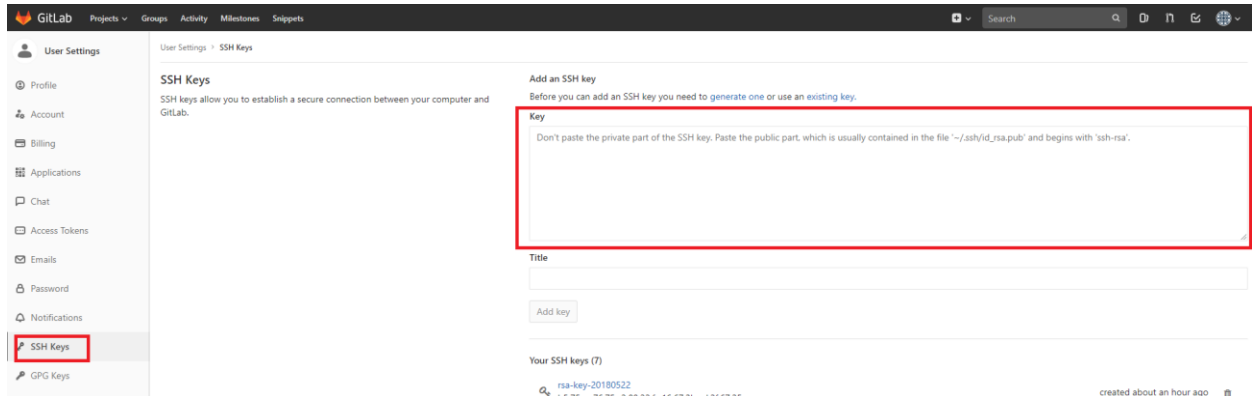
Create a GitLab account, [https://gitlab.com/users/sign\\_in](https://gitlab.com/users/sign_in).

Contact the system administrator with your GitLab username for access to the repository

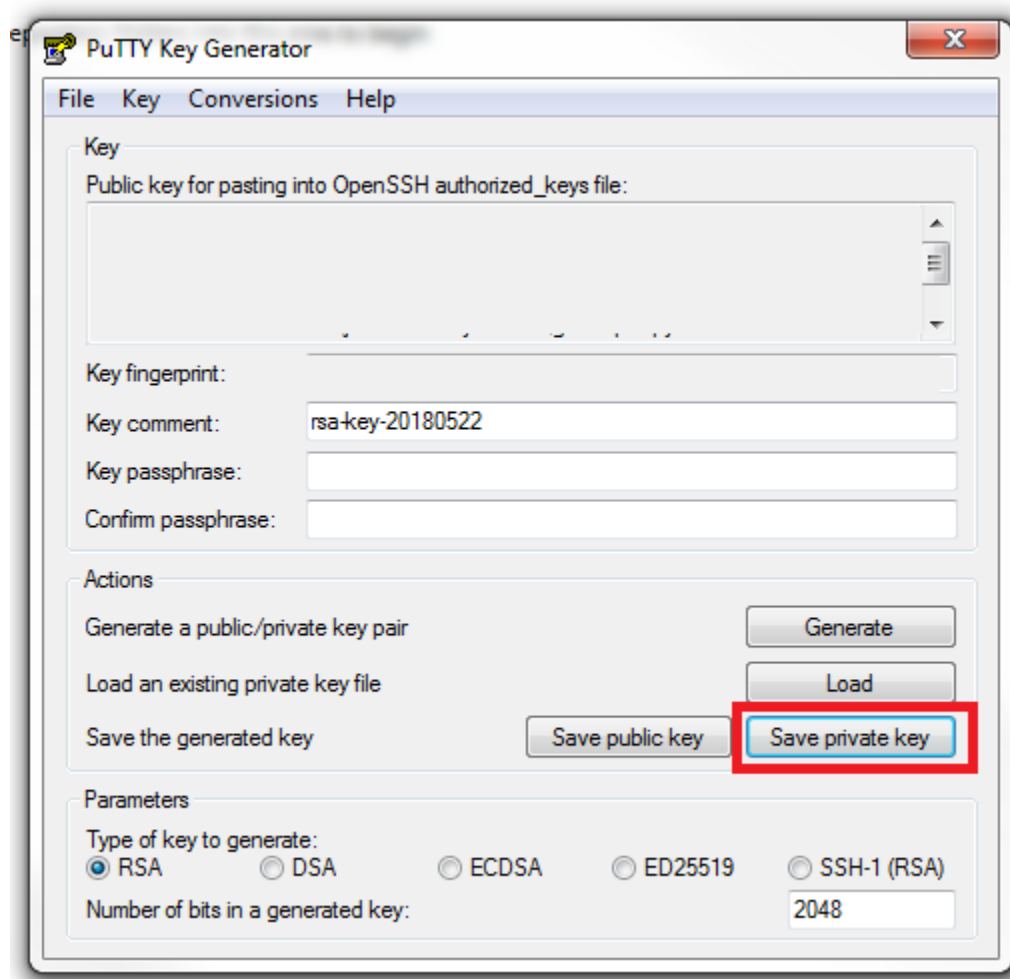
Once logged in, the landing page will appear:



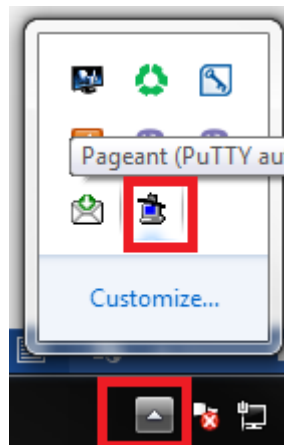
**Copy** the SSH Key. Then **paste** the **public portion** of the SSH Key (from the red box above) into the Key field. Then press, **Add Key**



Save the private key an appropriate folder on your hard drive:



Select on the **arrow** at the **bottom-right** of the screen. Then **right click** the **PuTTY** Icon and select **Add Key**:

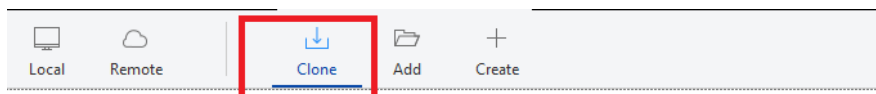


Select the **file** that was generated from the **Save Private Key** operation above.

### Cloning the Website

Cloning the website through SourceTree creates a local copy that can be edited. Edited code can then be pushed for review by the administrator, who can then integrate it into the dev site. Note that written content cannot be manipulated through SourceTree, only CSS, JavaScript, html (for WordPress templates), and php.

Begin the cloning process by selecting the Clone option:



## Clone

Cloning is even easier if you set up a [remote account](#)

Source Path / URL:

Repository Type: No path / URL supplied

Destination Path:

Name:

Local Folder:

[Root]

Advanced Options

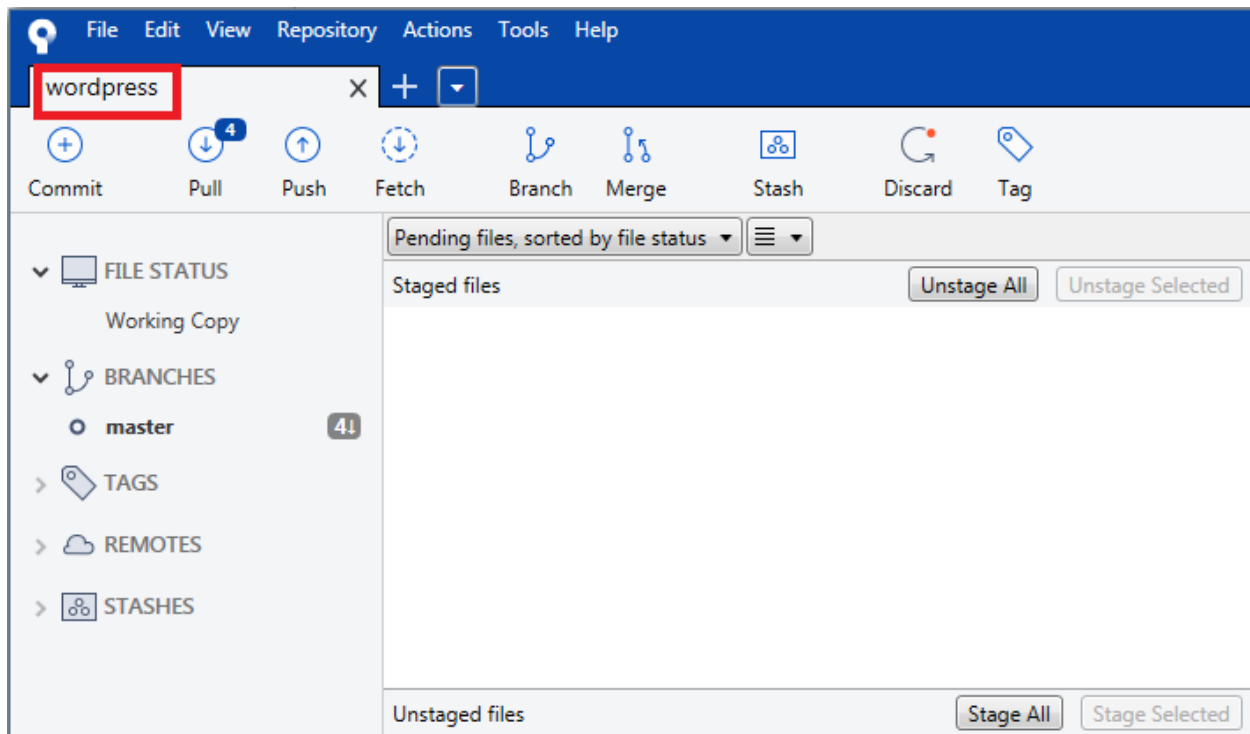
Then take the **Source Path/ URL** from **GitLab**:



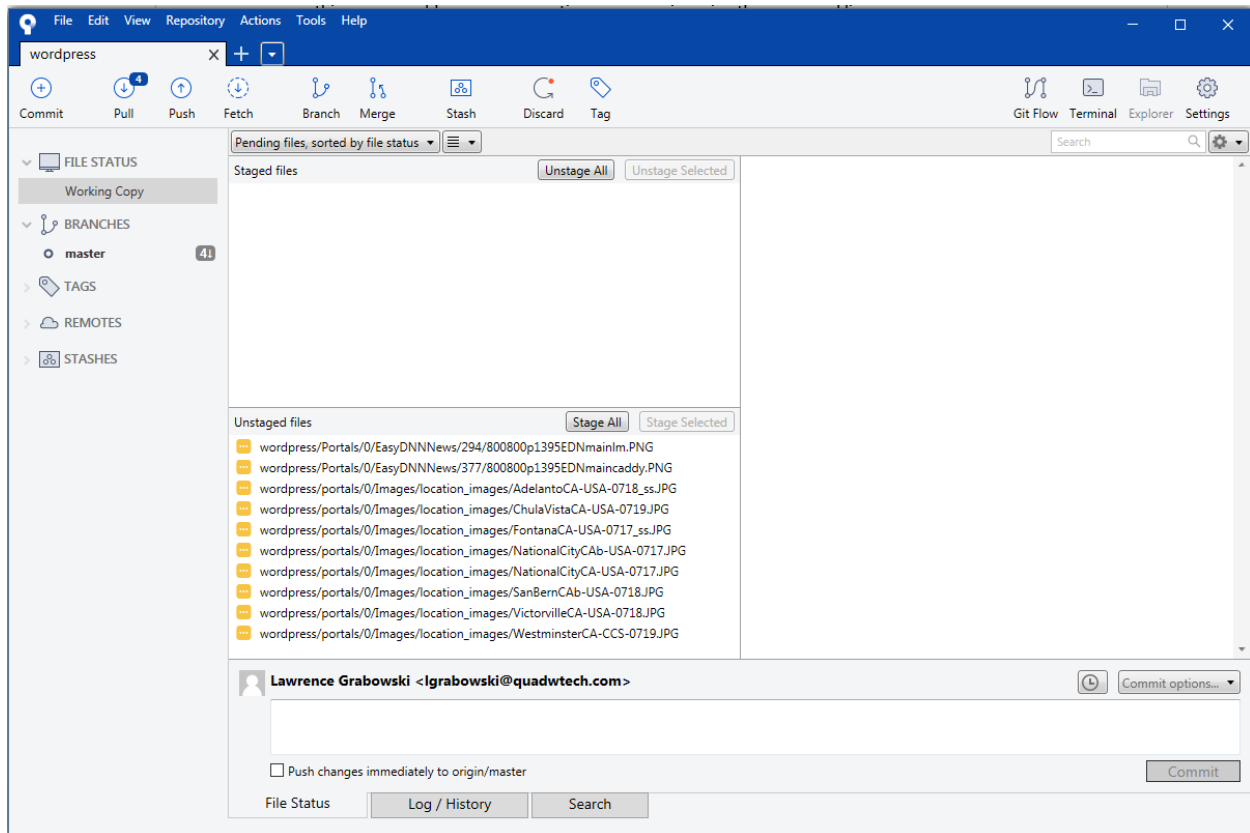
And **Paste** it into the **Source Path/ URL** field.

A **Destination Path** will automatically generate. It's recommended that you edit the file path to something manageable as some operations may require using the command line.

A **Name** will also auto-generate. This can be edited as the user sees fit. It will appear in the tab near the top of the application.



Once the Destination Path and Name are satisfactory, select **Clone**. Note that the initial clone will take several minutes to complete. Once it finishes, this screen will appear:

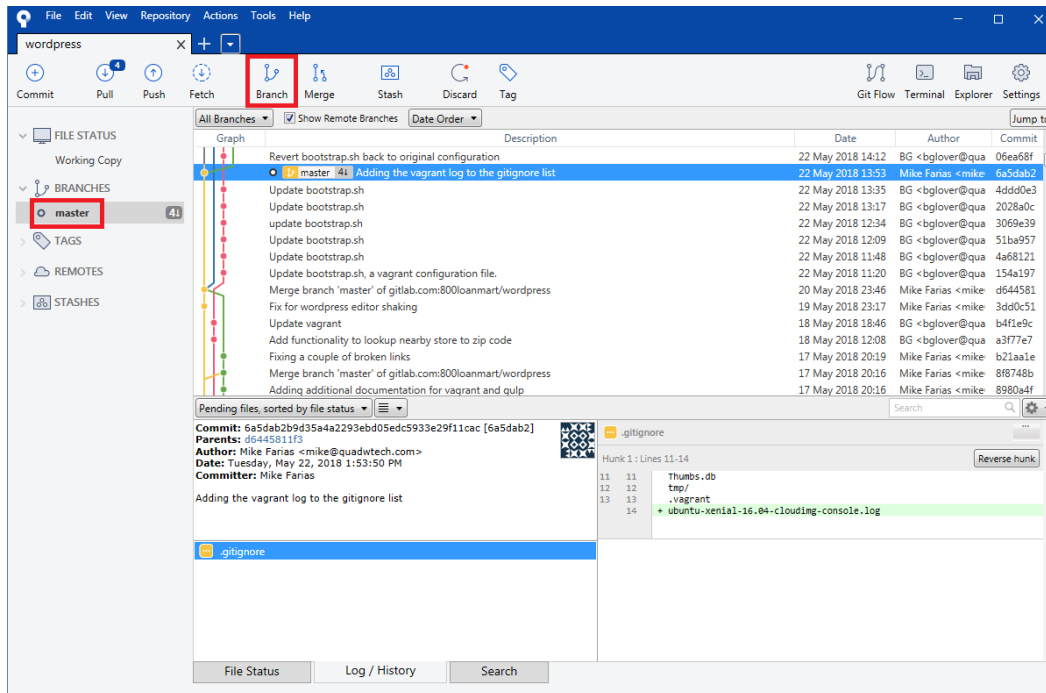


And you are ready to begin using SourceTree to make edits.

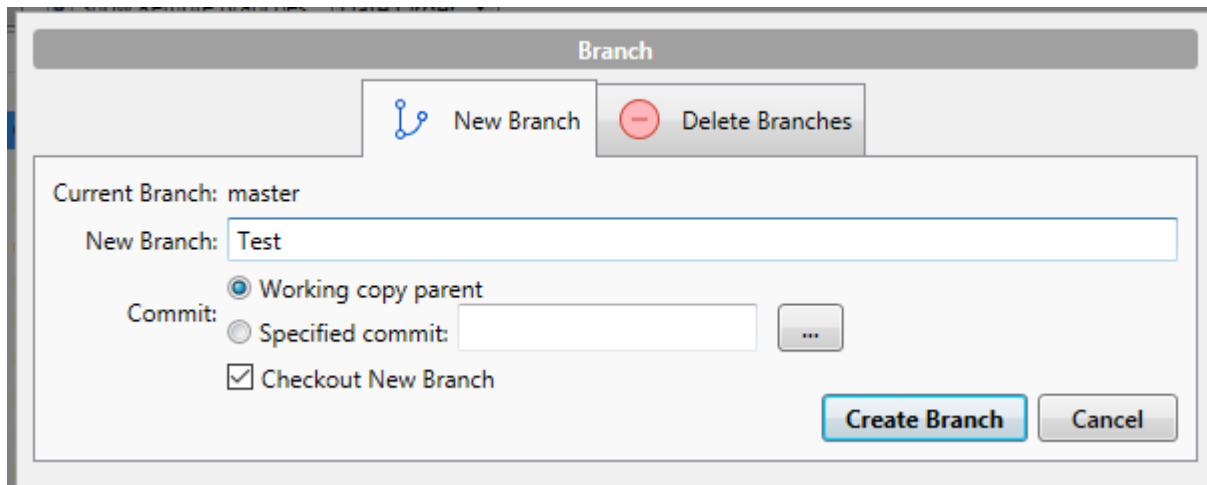
### Creating Branches

Branches are local copies of the website code that a user can make changes to without altering the code in the repository or any of the sites, Dev, Staging, or Live. Once edits are complete, they are pushed back to GitLab. Then a Merge Request is submitted to the system administrator, who will review the code. If it's approved, it will be integrated into the Master branch.

To create a branch, select **master** in the left frame. Then select **Branch** at the top.



Enter a name for the branch. Then press **Create Branch**.

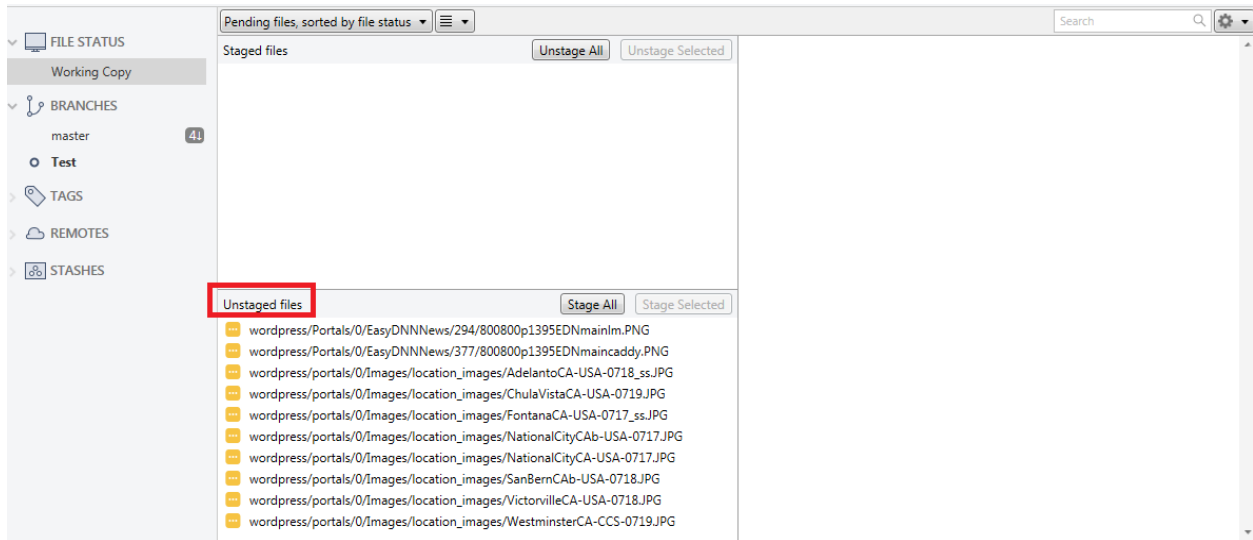


This will create a **duplicate copy** to work in. Note the **circle** next to the **branch name**; this indicates the branch being **manipulated** in the **Working Copy** tab.

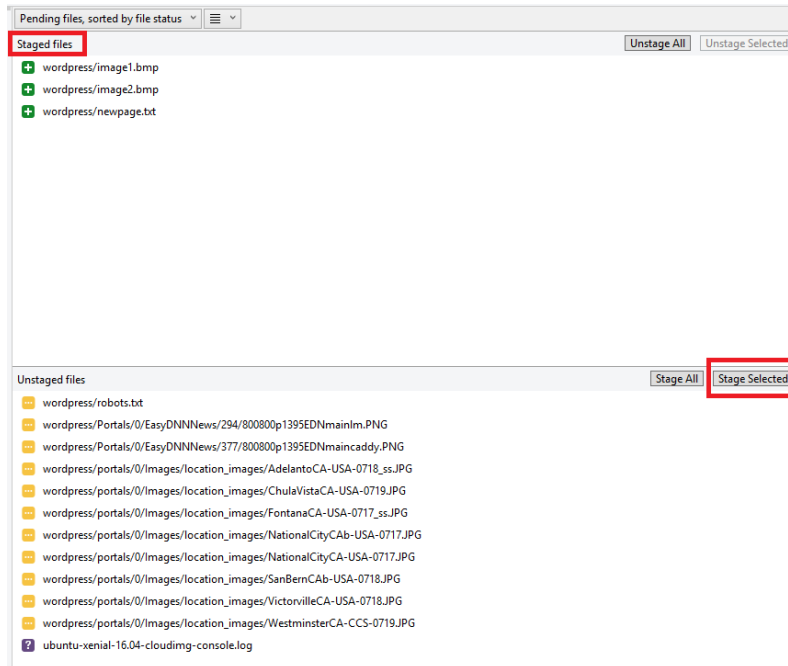
### Editing and Committing Files to the Repository

Files can be changed in your **preferred Editor**. When a change is saved to a file in the folder containing the clone, it will be reflected in the **Unstaged Files** window.

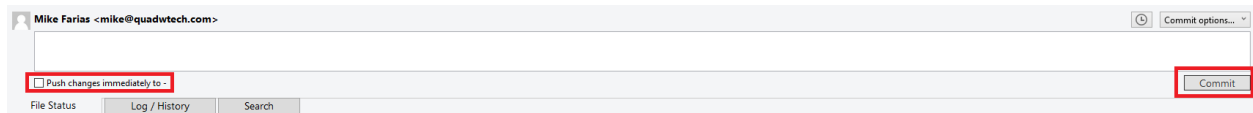




When a file is ready to be **committed**, select it and press **Stage Selected**. This will move it to the **Staged Files** window.



Once all the files to be committed are staged, enter the **notes** in the **dialogue box** and press **Commit**.



**Leave** the “Push changes immediately to –” box **Unchecked**.

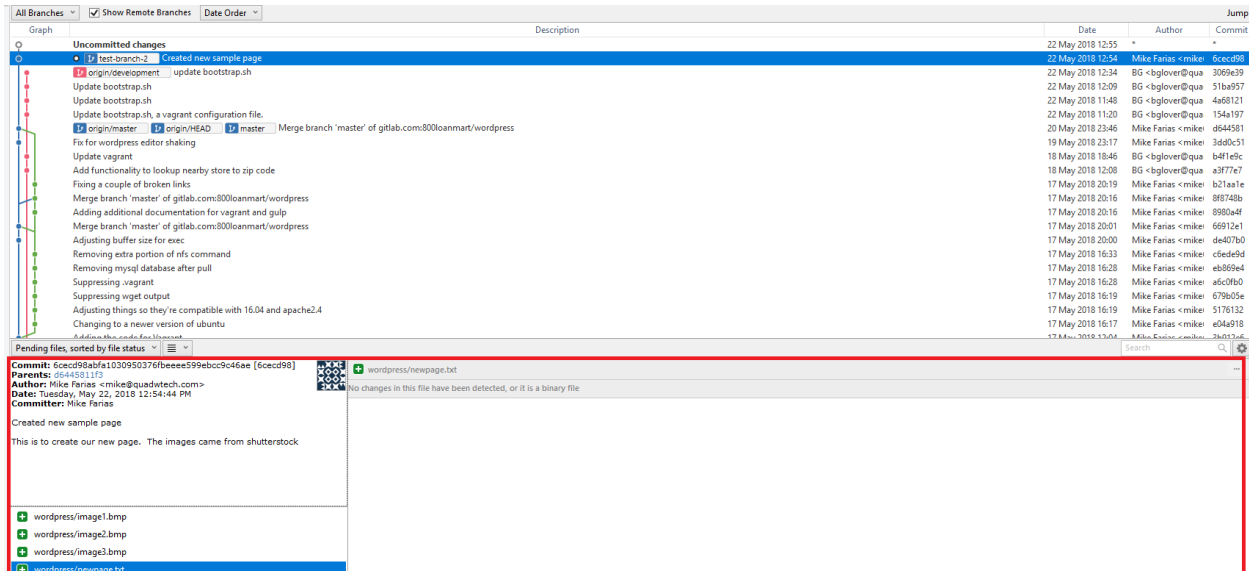
The format of the dialogue box section should be:

Brief Subject  
Blank Line  
Description of the changes

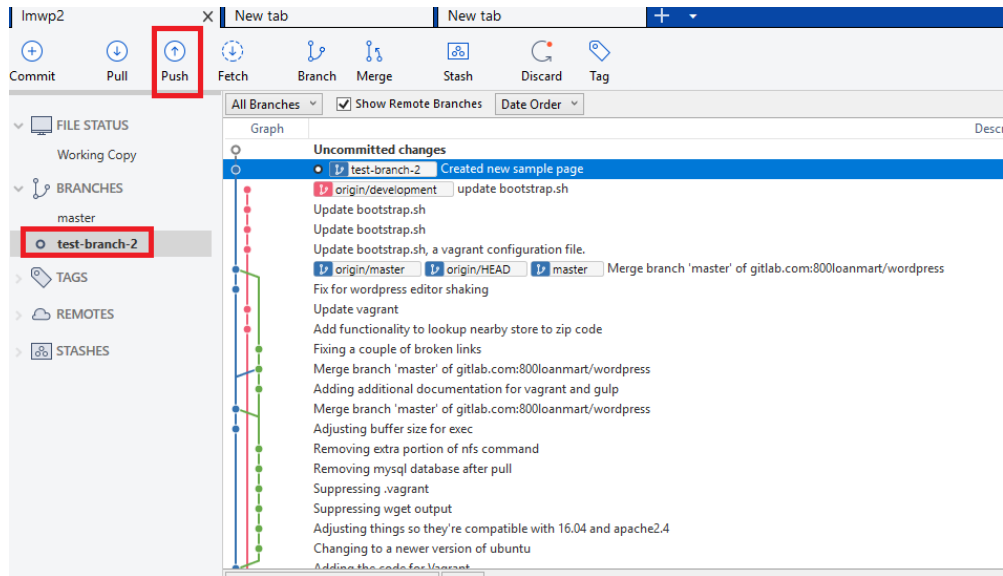
Note that the comments section accepts Markdown text formatting.

Once the changes are committed, they will be reflected in the branch. Selecting a branch node will display:

- Author of the changes
- Date
- Comments
- Files Edited
- Details of Edits
- Etc.



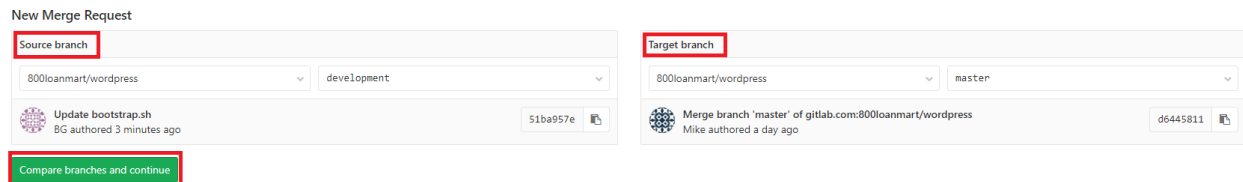
The final step is to **push** the branch to **GitLab**. Select the **branch** to be pushed and then press the **Push** button.



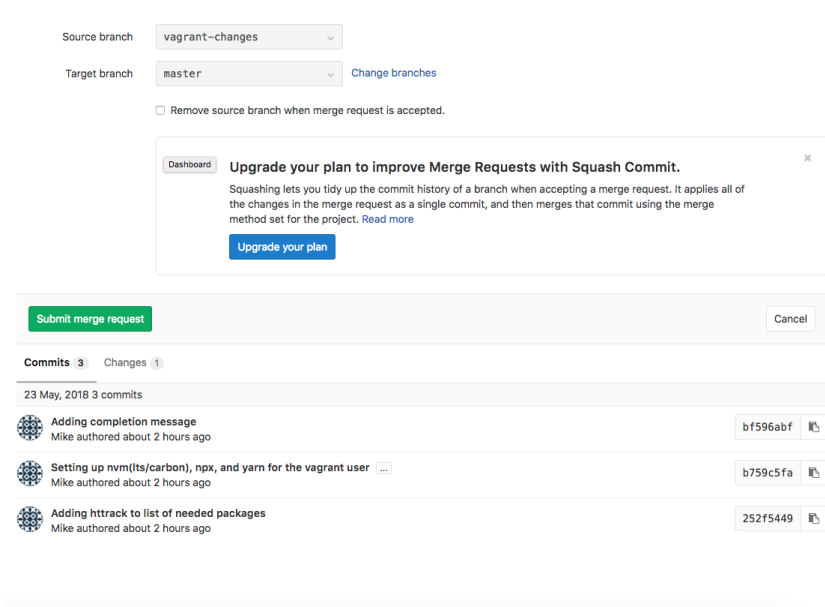
## Requesting a Merge

Once the changes have been pushed to GitLab a Merge Request must be sent to the systems administrator so they can be reviewed and integrated into the Master branch.

Select **Merge Request** in the **left frame**. Set the **source branch** to the appropriate branch and the **target branch** to master.



Then press **Compare and Continue**. SourceTree will ask for confirmation that the correct branches are being merged:

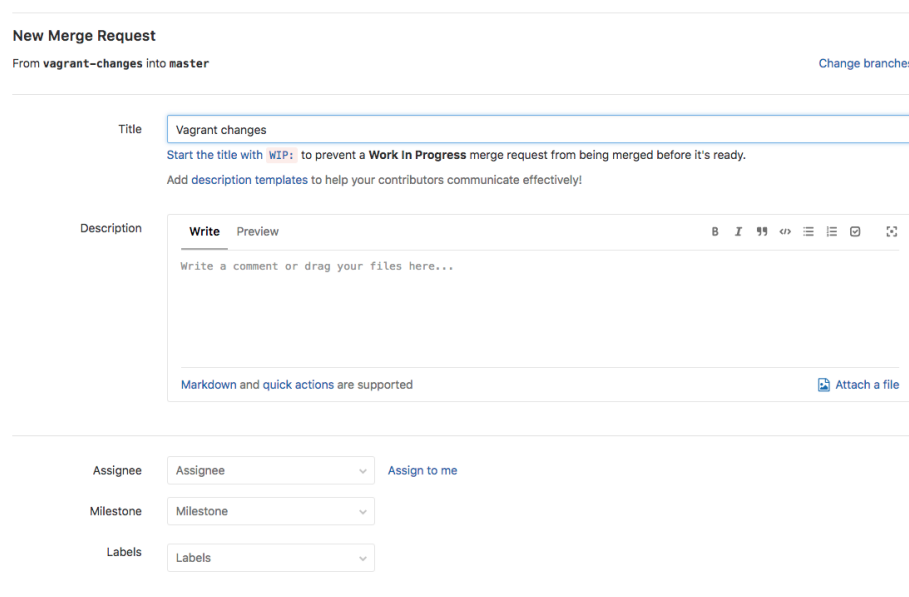


If the branches are correct, select **Submit Merge Request**. The next screen provides users the opportunity to comment on the merge. The formatting should be:

Brief Subject

Blank Line

Description of the changes



When the administrator receives notice that there is a merge request pending, it will display like this:

## New Merge Request

From `vagrant-changes` into `master`

[Change branches](#)

Title

Start the title with `WIP:` to prevent a **Work In Progress** merge request from being merged before it's ready.

Add [description templates](#) to help your contributors communicate effectively!

Description

Write [Preview](#)

This tweaks the vagrant config to:

- Install `httrack` - Used for cloning the entire site
- Installing `nvm` - Used to manage nodejs versions
- Installing `yarn` - Used as an alternative to `npm`
- Installing `npx` - Used to make life easier with executing node binaries

These are all installed in the vagrant instance rather than on the local machine

[Dashboard](#)

Assignee  [Assign to me](#)

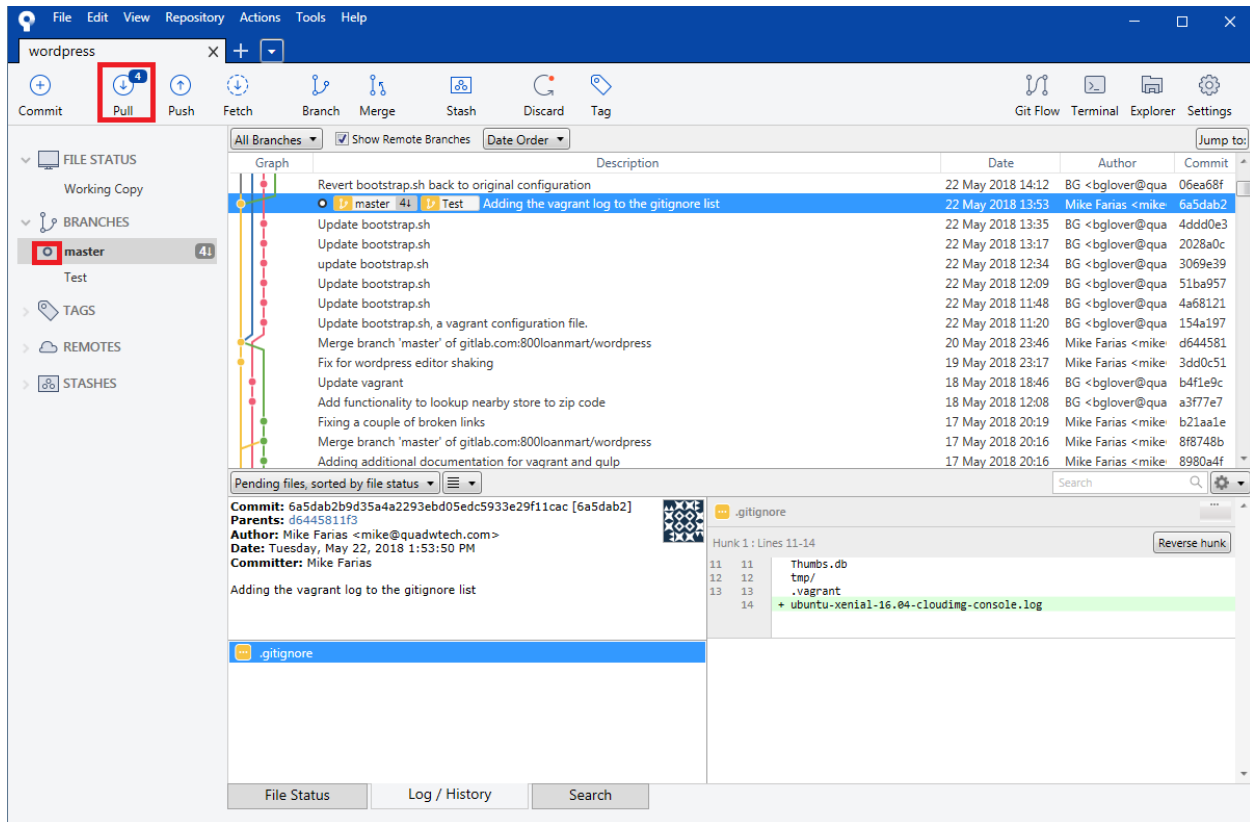
Milestone

Labels

Source branch

## Pulling to SourceTree

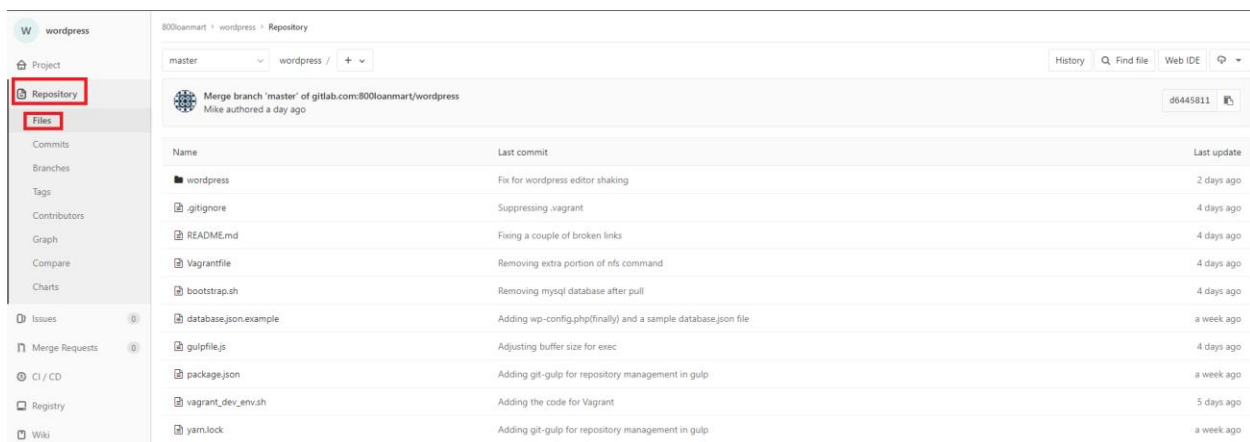
As other users make changes to the repository, SourceTree will send **alerts** that there have been **updates**. To get the **latest version** of the site, select the **branch** you wish to update and press **Pull**.



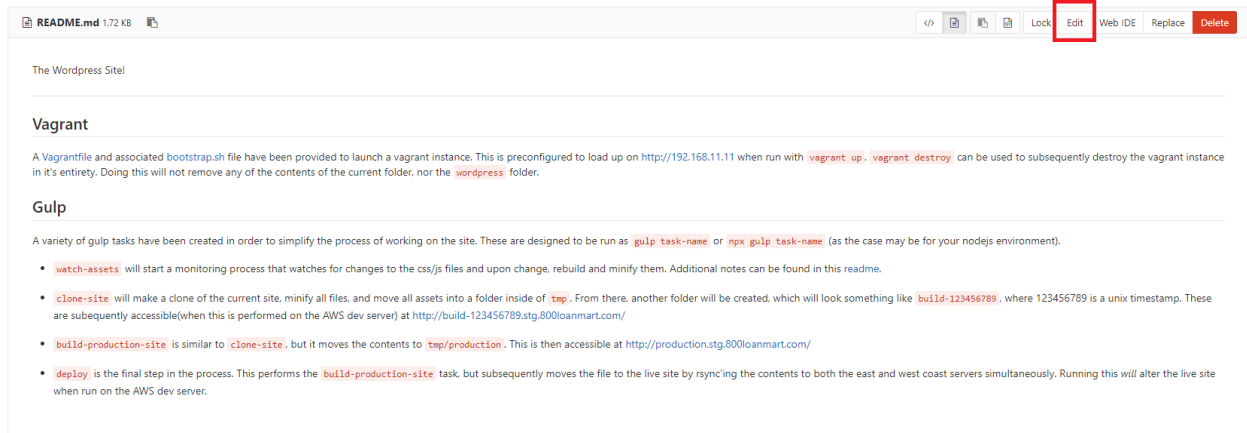
Note that SourceTree displays the number of updates above the Pull button.

## Editing in GitLab

Edits can also be made in GitLab. Select **Repository>Files** in the left frame. This will display the files associated with the repository.



Double-clicking will open the file. Select **Edit** to make changes.



Once your edits are complete, select **Commit Changes**.

