

GitLab Tutorial for WebStorm and TortoiseGit

Overview

This tutorial gives a basic introduction on how to synchronize files in a GitLab repository with WebStorm and TortoiseGit. You will learn how to create a GitLab repository, add and change files, and upload the changes to the repository. You will simulate a merge conflict on your computer by using two different repository locations. Note that in praxis, merge conflicts occur when two people change a file at the same time.

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Tools

GitLab (<https://gitlab.com/>): online code repository, free usage for personal projects or small teams, can be also self-hosted

WebStorm (<https://www.jetbrains.com/webstorm/>): JavaScript IDE supporting different code repositories, free usage for students and open source projects, for Windows/Linux/Mac

TortoiseGit (<https://tortoisegit.org/>): GUI for Git commands including a context menu and icon overlays, free usage, for Windows only

Notepad++ (<https://notepad-plus-plus.org/>): source code editor, free usage, for Windows only

1. Register at GitLab

a\ Go to https://gitlab.com/users/sign_in, choose the “Register” tab, and follow the steps to create a GitLab account:

GitLab.com

GitLab.com offers free unlimited (private) repositories and unlimited collaborators.

- [Explore projects on GitLab.com](#) (no login needed)
- [More information about GitLab.com](#)
- [GitLab.com Support Forum](#)
- [GitLab Homepage](#)

By signing up for and by signing in to this service you accept our:

- [Privacy policy](#)
- [GitLab.com Terms](#).

Sign in **Register**

Full name

Username


Email

Email confirmation





Password

Minimum length is 8 characters

I'd like to receive updates via email about GitLab.

I'm not a robot  reCAPTCHA
Privacy - Terms

Didn't receive a confirmation email? [Request a new one.](#)

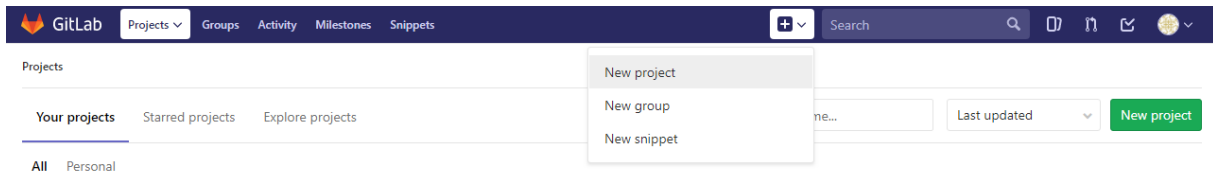
Sign in with    

Remember me

- ❖ Note: All ETH Students can use the GitLab repository which is hosted at ETH Zurich (<https://gitlab.ethz.ch/>). You do not need to register, just enter your ETH username and password in the “netzh LDAPS” tab.

2. Create a new GitLab repository

a) Sign in to GitLab, press on + in the header and select “New project”, or select the green “New project” button:



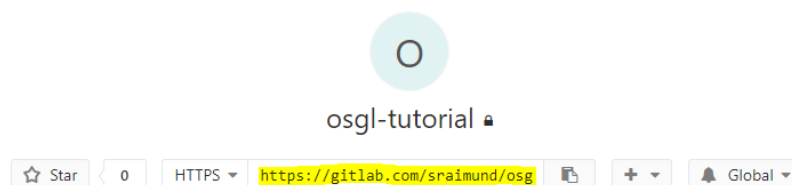
b) Fill in the name of your project and press “Create project”:

 A screenshot of the 'Create project' form in GitLab. The form has four tabs: 'Blank project' (selected), 'Create from template', 'Import project', and 'CI/CD for external repo'. The 'Project path' field contains 'https://gitlab.com/sraimund/'. The 'Project name' field contains 'osgl-tutorial'. Below these fields, there is a link: 'Want to house several dependent projects under the same namespace? Create a group'. The 'Project description (optional)' field is empty. Under 'Visibility Level', there are three radio buttons: 'Private' (selected), 'Internal', and 'Public'. Each has a brief description. At the bottom, there is a green 'Create project' button and a 'Cancel' button.

❖ Hint: Start with a private project. You can change it later on to public if you like to.

c) Copy the URL of your repository (here: <https://gitlab.com/sraimund/osgl-tutorial.git>) to the clipboard:

Project 'osgl-tutorial' was successfully created.



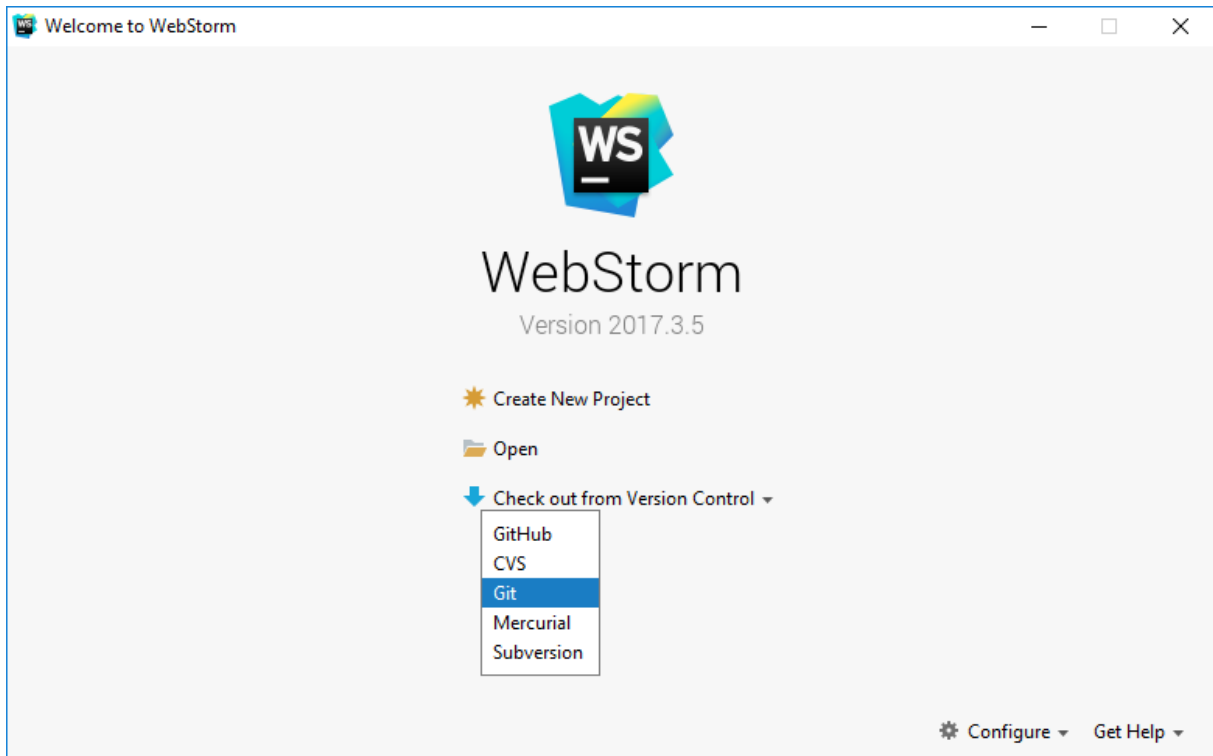
3. Connect to your GitLab repository

3.1 Connect to your GitLab repository via WebStorm

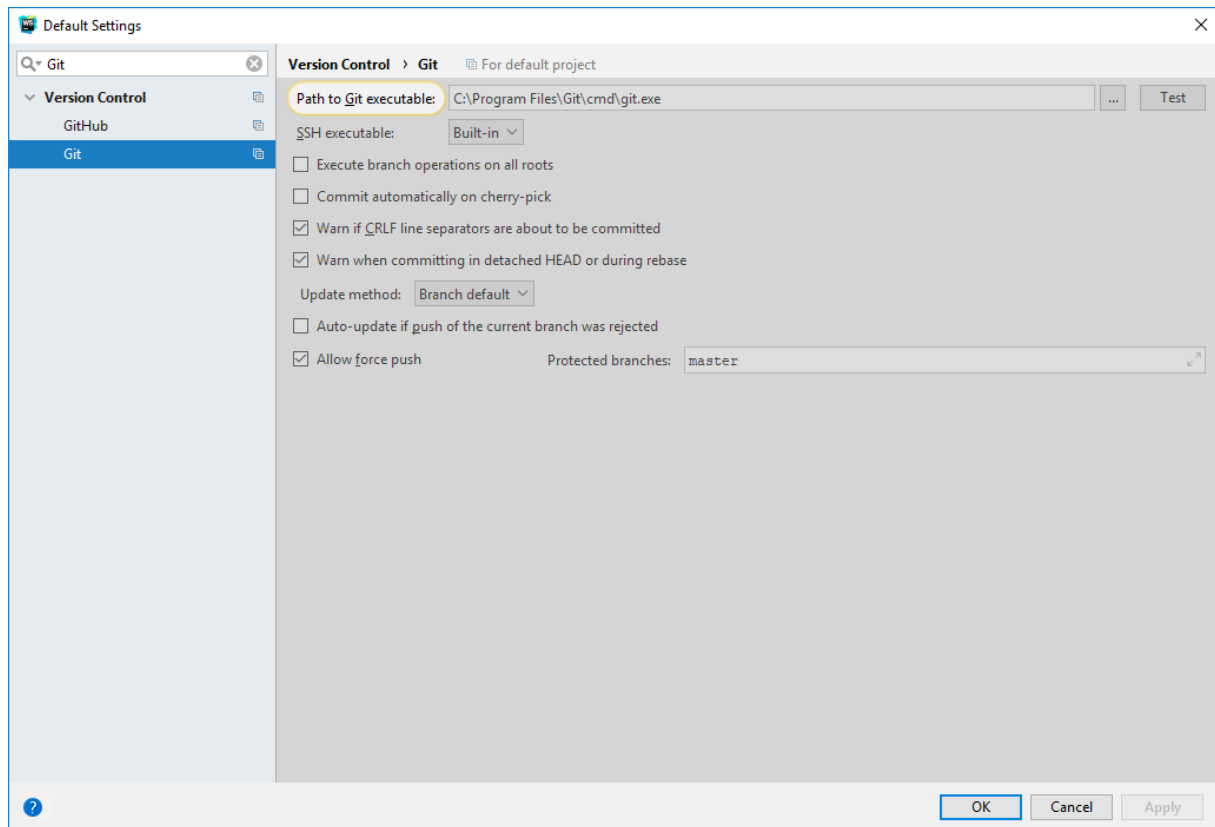
a\ Start WebStorm

- ❖ Hint: In case a project is already open, close the project (“File > Close Project”).

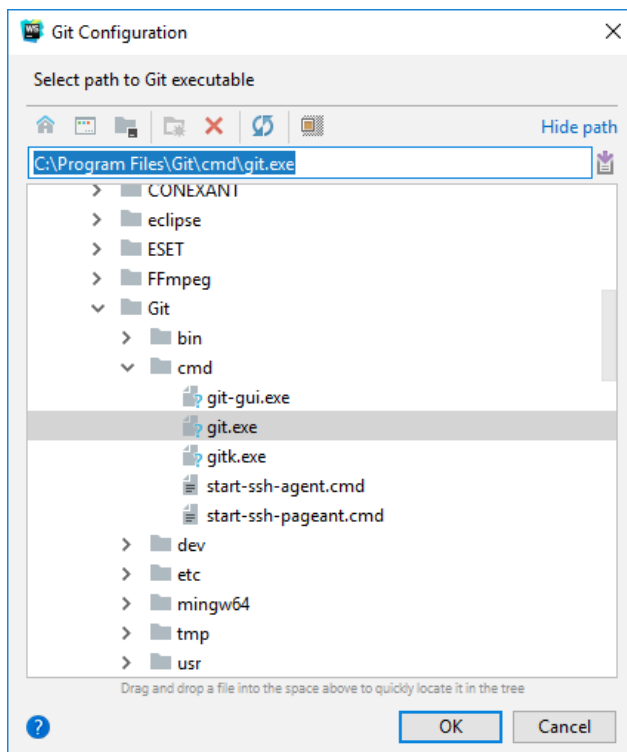
b\ Click on “Check out from Version Control” and select “Git”:



- ❖ Hint: In case path to git.exe is not configured correctly, click on “Configure” and search for “Git” in the search field of the settings:

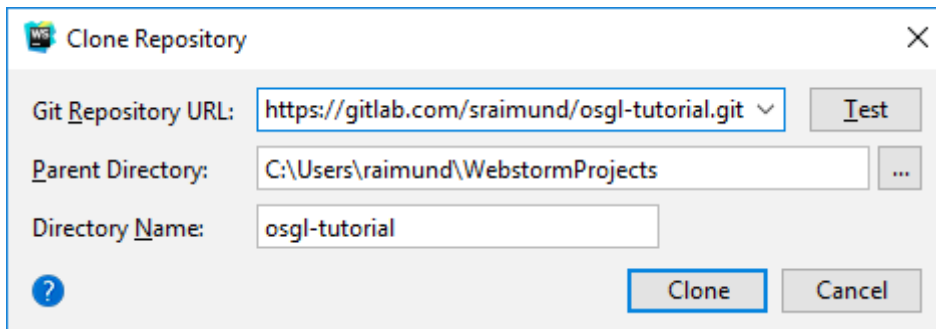


- ❖ Press the “...” button and choose the path to the Git executable:



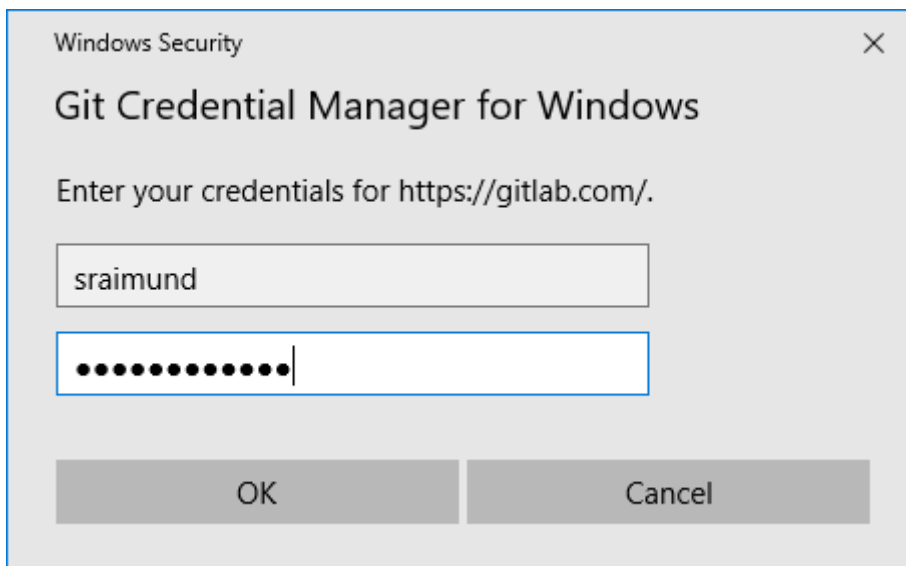
- ❖ Try to “Check out from Version Control” again

c\ Paste the copied URL of your repository and press the “Clone” button:

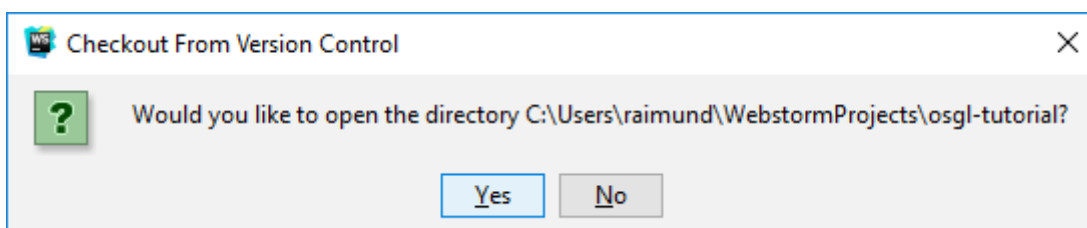


❖ Hint: In case the “Parent Directory” does not exist, you need to create it

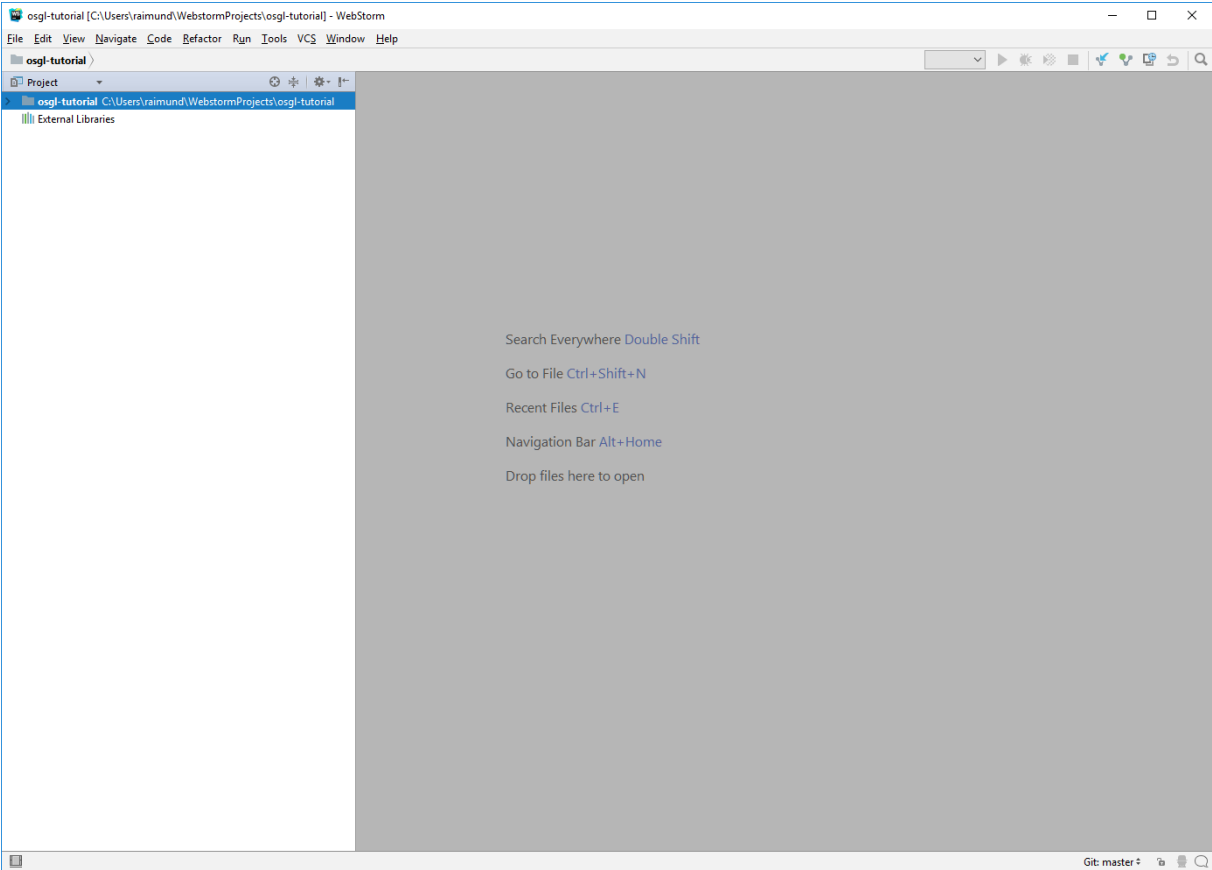
d\ Enter your GitLab username and password:



e\ Press “Yes”:

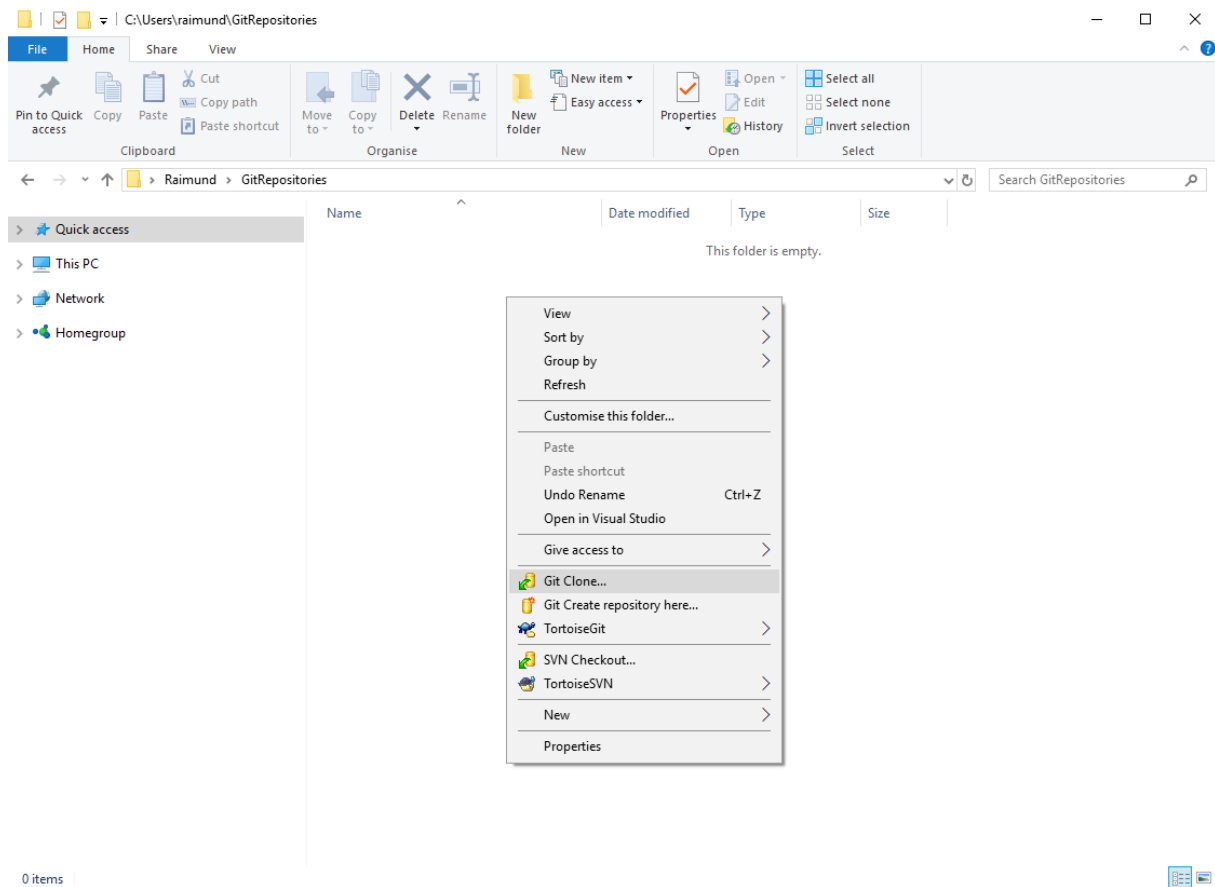


f) You are now connected to your repository:

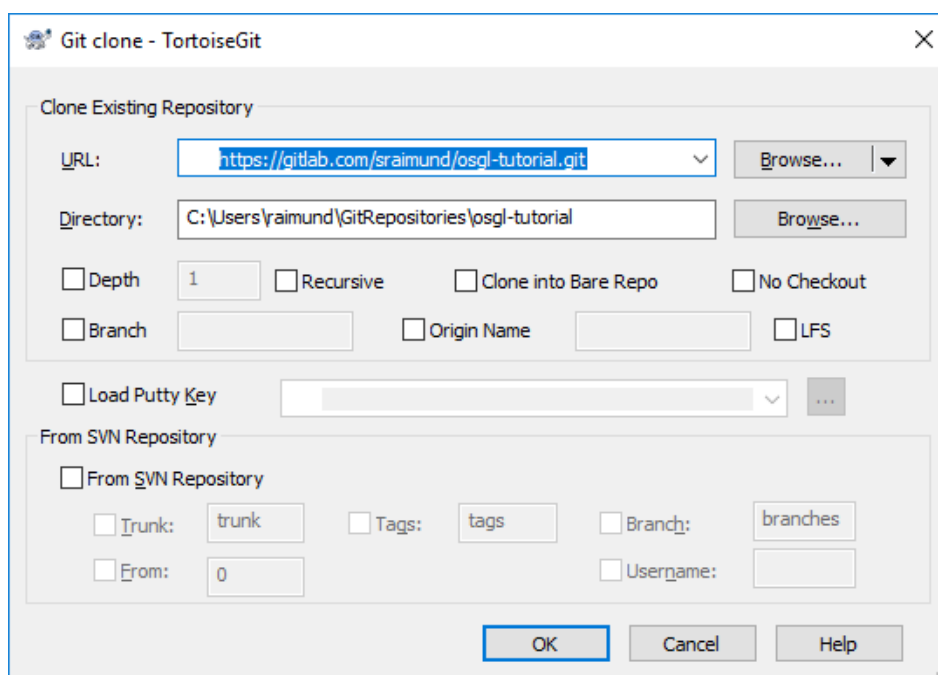


3.2 Connect to your GitLab repository via TortoiseGit

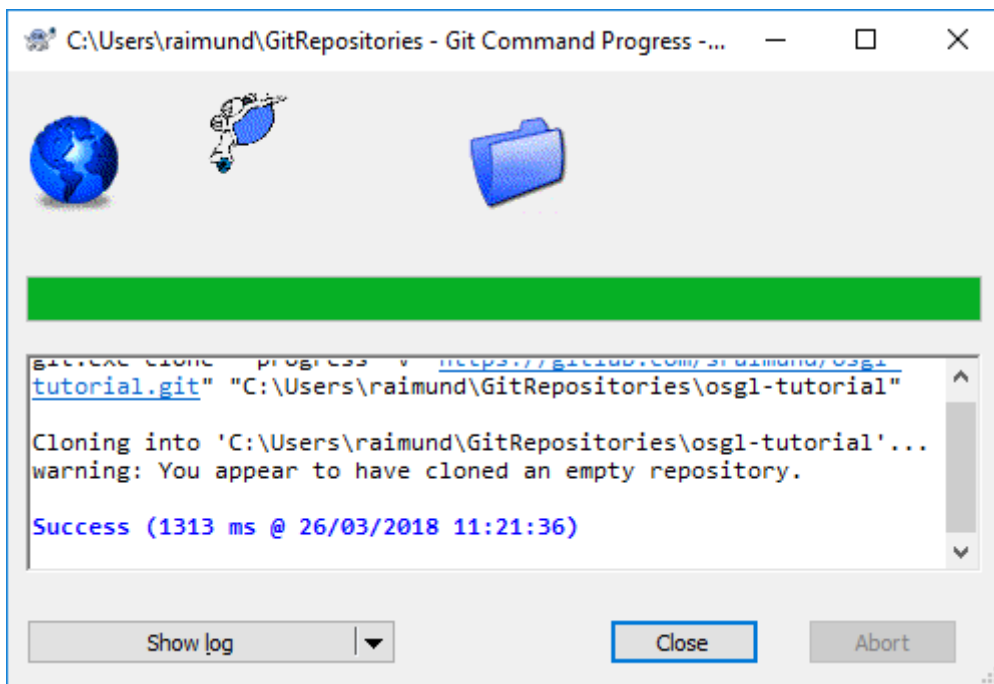
a) Right mouse click in the folder where you want to create a copy of your repository (choose a different folder than in WebStorm) and select “Git Clone” in the context menu:



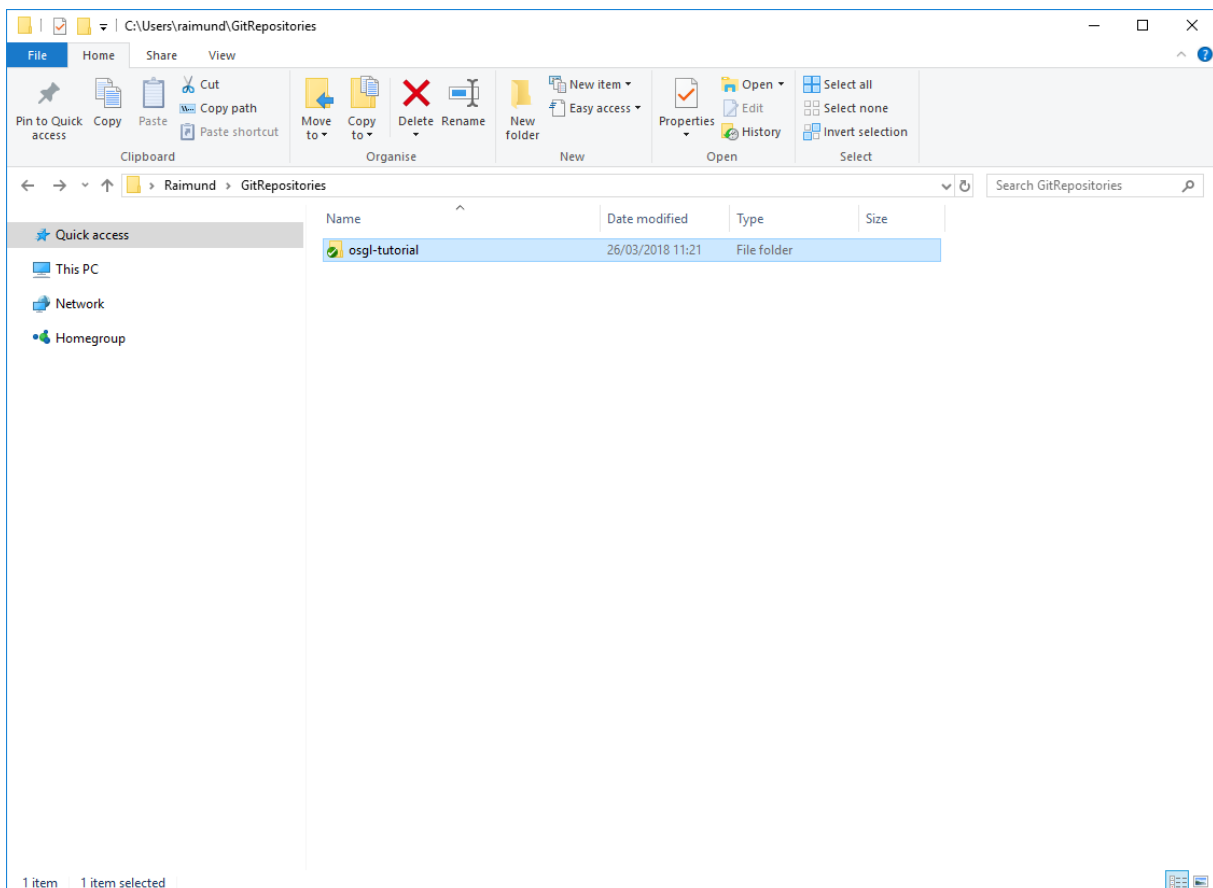
b) Paste the URL of your repository:



c\ Press "Close":



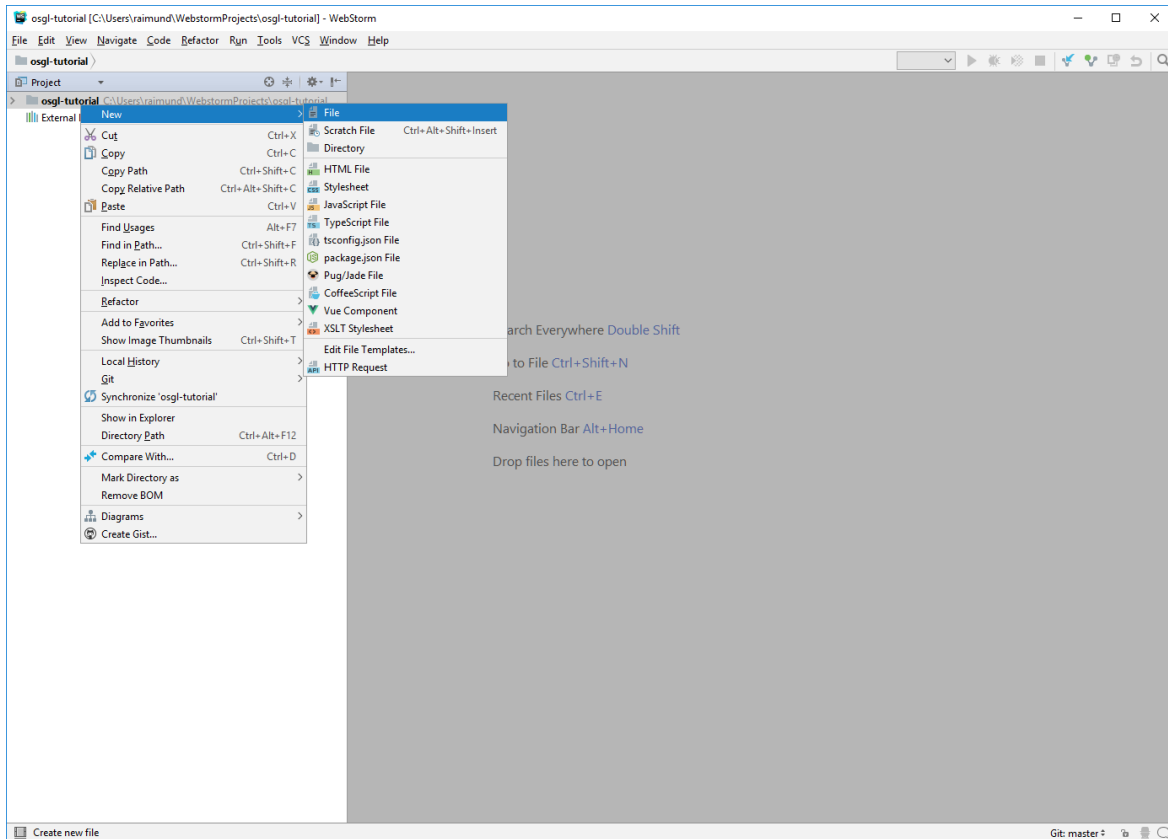
d\ You are now connected to your GitLab repository:



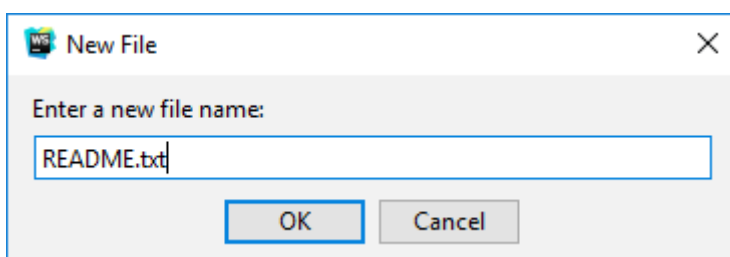
4. Upload a file to the GitLab repository

4.1 Upload a file to the GitLab repository via WebStorm

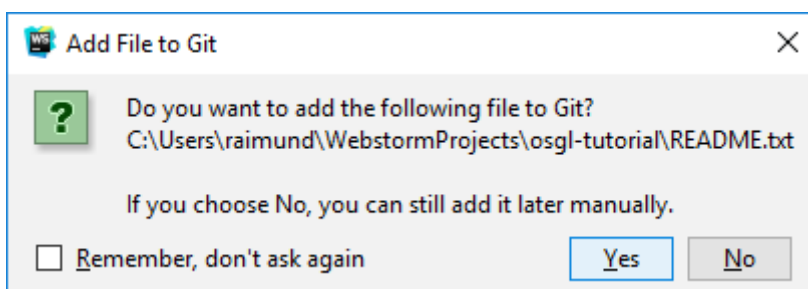
a) Right mouse click on the root folder and select “New > File” in the context menu:



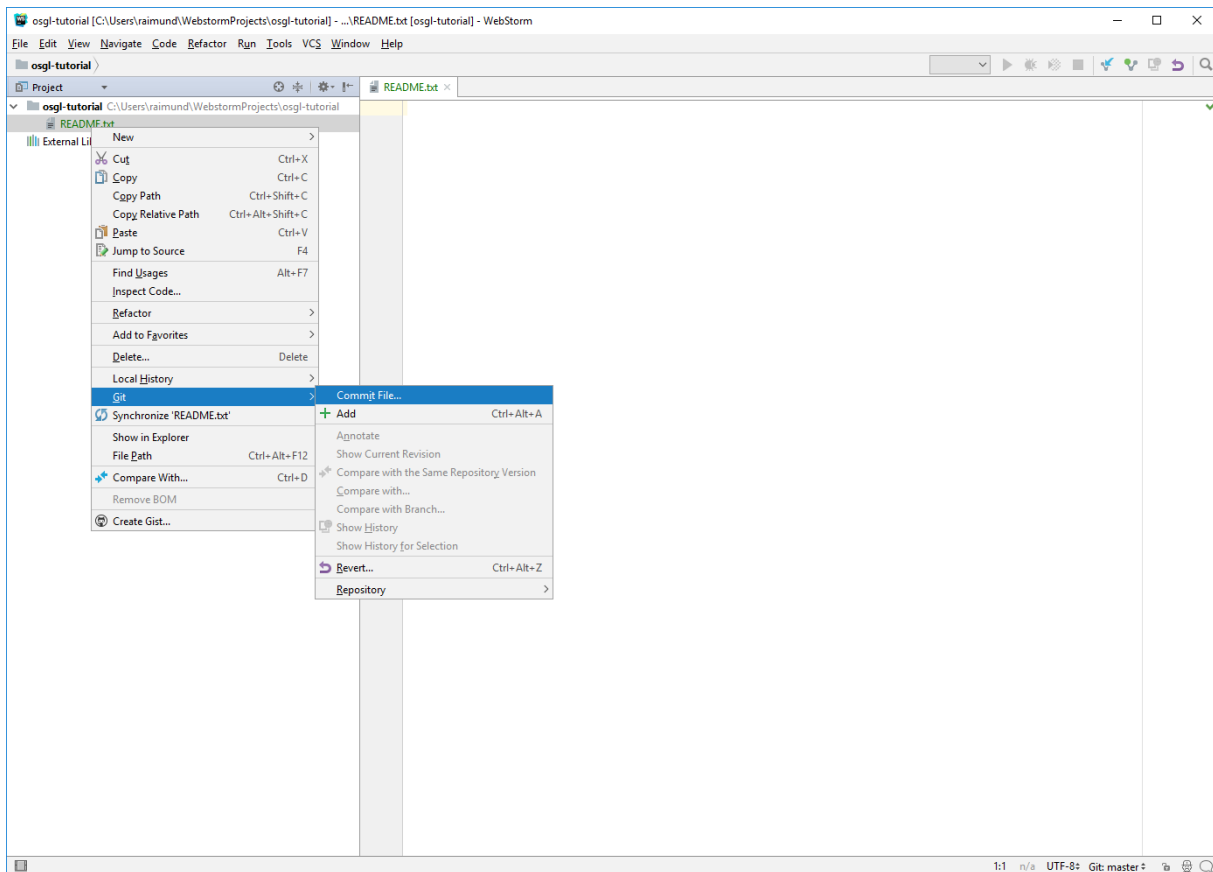
b) Enter a file name:



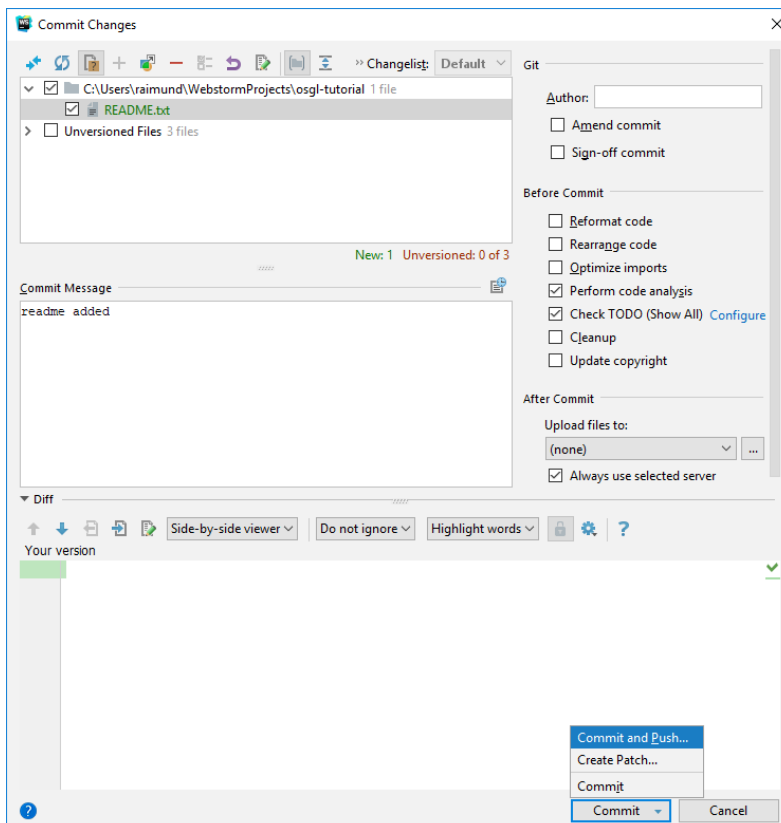
c) Press “Yes” to put the file under version control:



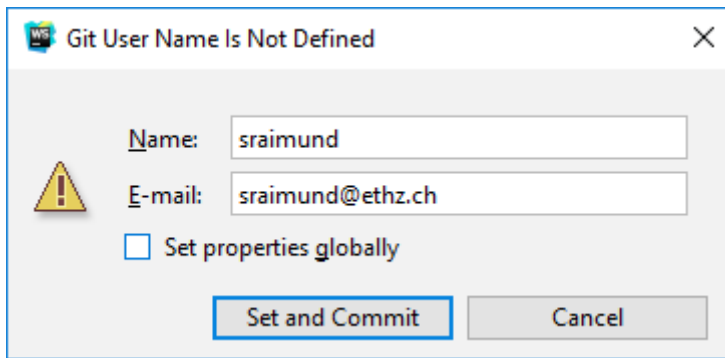
d) Right mouse click on the file and select “Git > Commit File...” in the context menu:



e) Enter a commit message and click on “Commit > Commit and Push...”:



f\ Enter your GitLab username and your email address:



Git User Name Is Not Defined

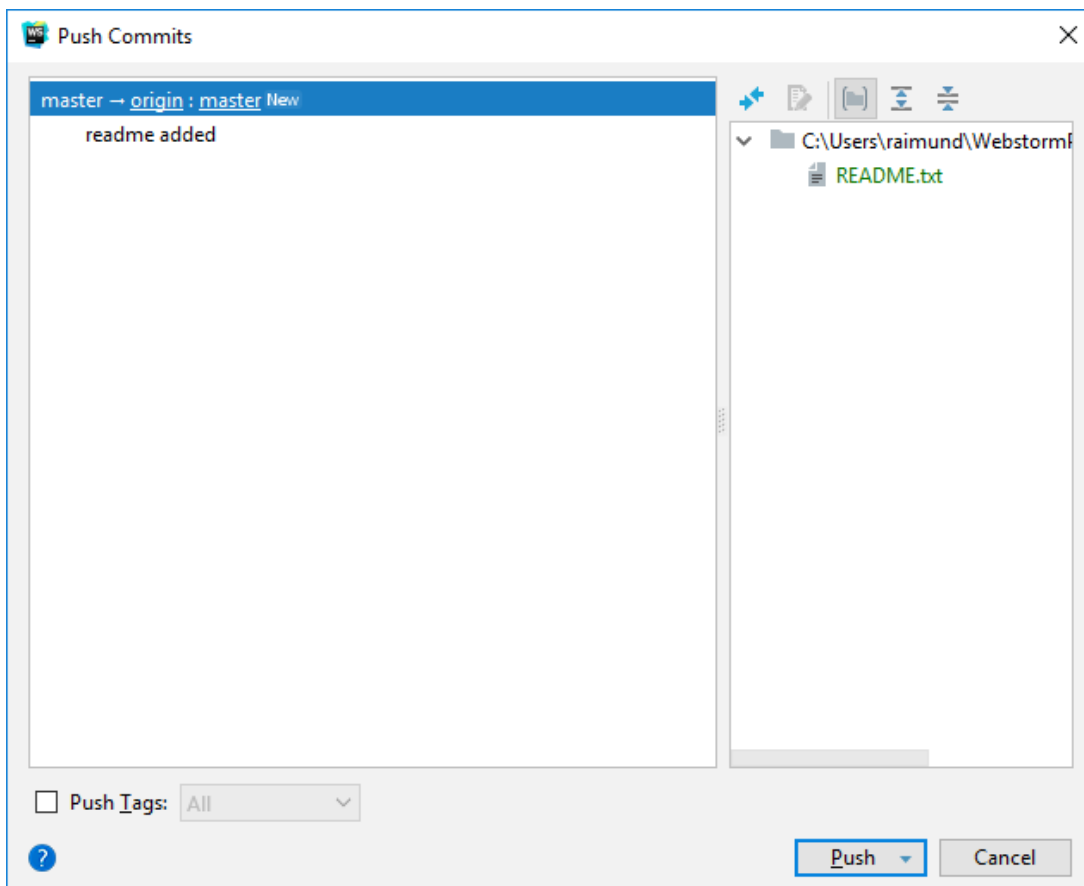
Name: sraimund

E-mail: sraimund@ethz.ch

Set properties globally

Set and Commit Cancel

g\ Press “Push”:



Push Commits

master → origin : master New

readme added

C:\Users\raimund\Webstormf


README.txt

Push tags: All

Push Cancel

h\ Check in your web browser if the file has been uploaded to your GitLab repository by refreshing your GitLab repository (here: <https://gitlab.com/sraimund/osgl-tutorial>):


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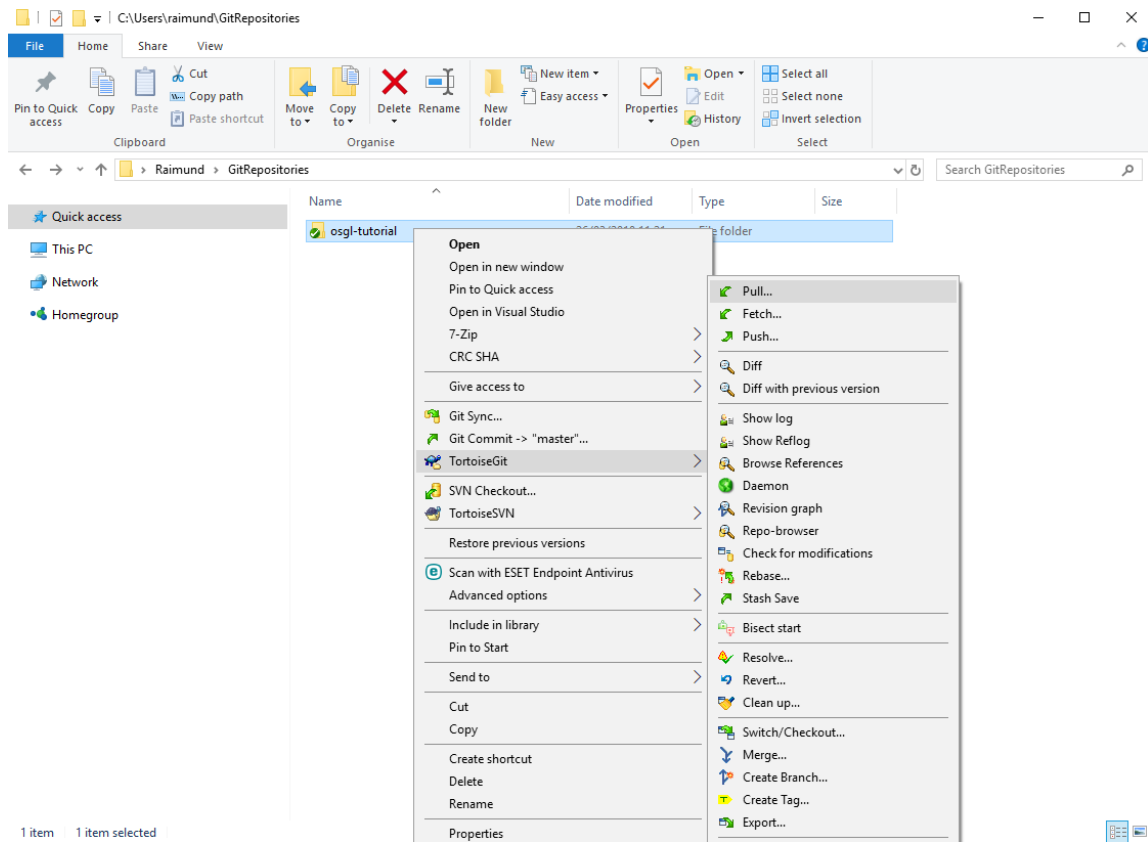
master ▾ osgl-tutorial / + ▾History 🔍 Find file 🔄 ▾

**readme added**
Raimund authored about a minute ago335d5a06 📄

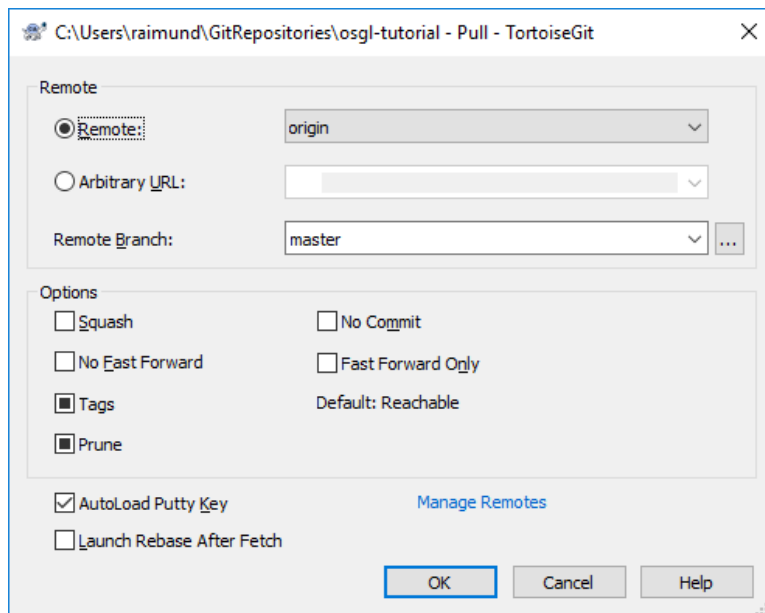
Name	Last commit	Last update
📄 README.txt	readme added	about a minute ago

4.2 Upload a file to the GitLab repository via TortoiseGit

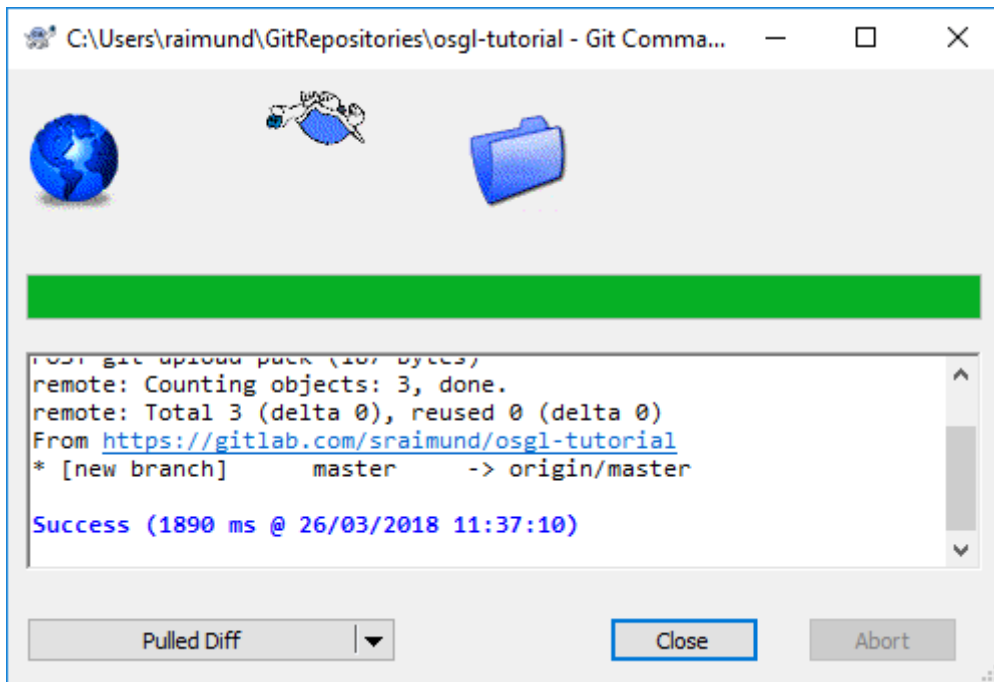
a) Right mouse click on the folder and select “TortoiseGit > Pull...” to receive the latest changes:



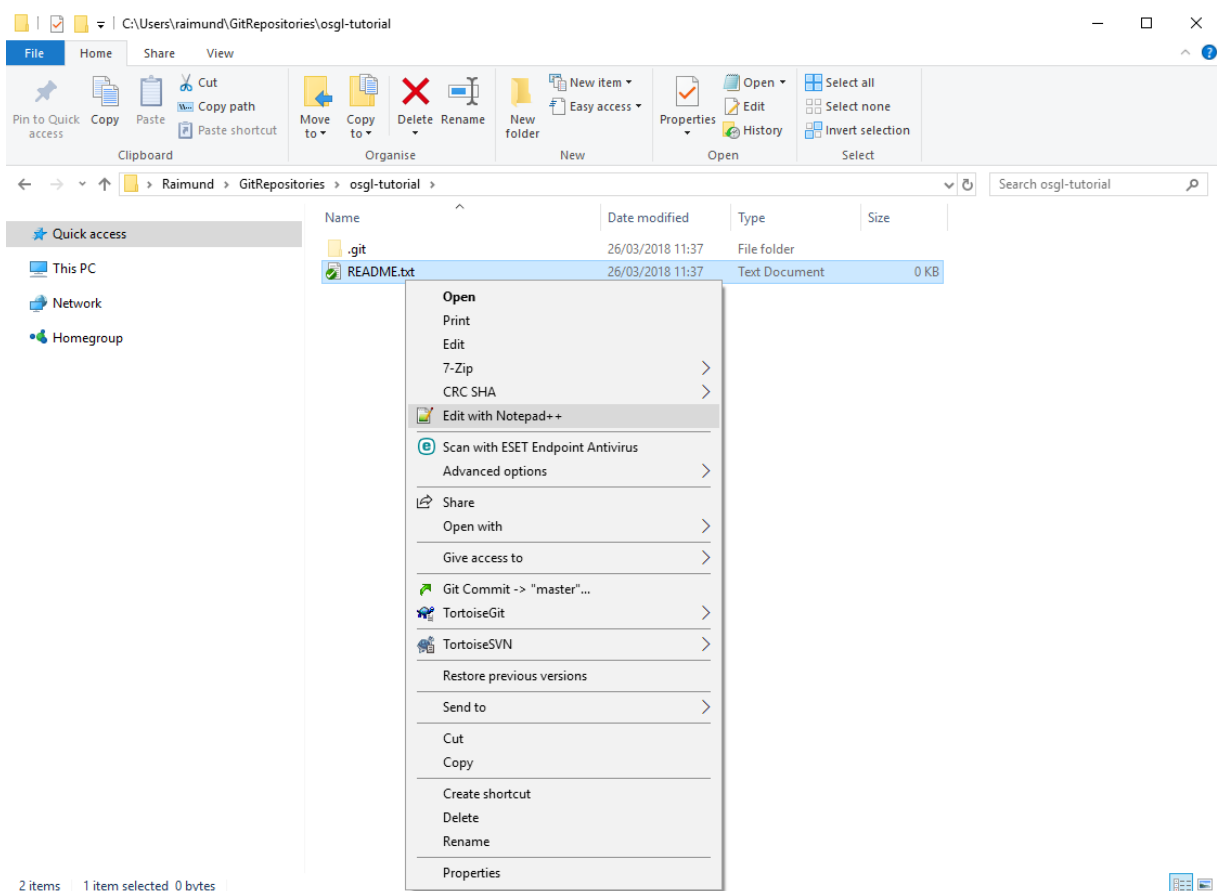
b) Press “OK”:



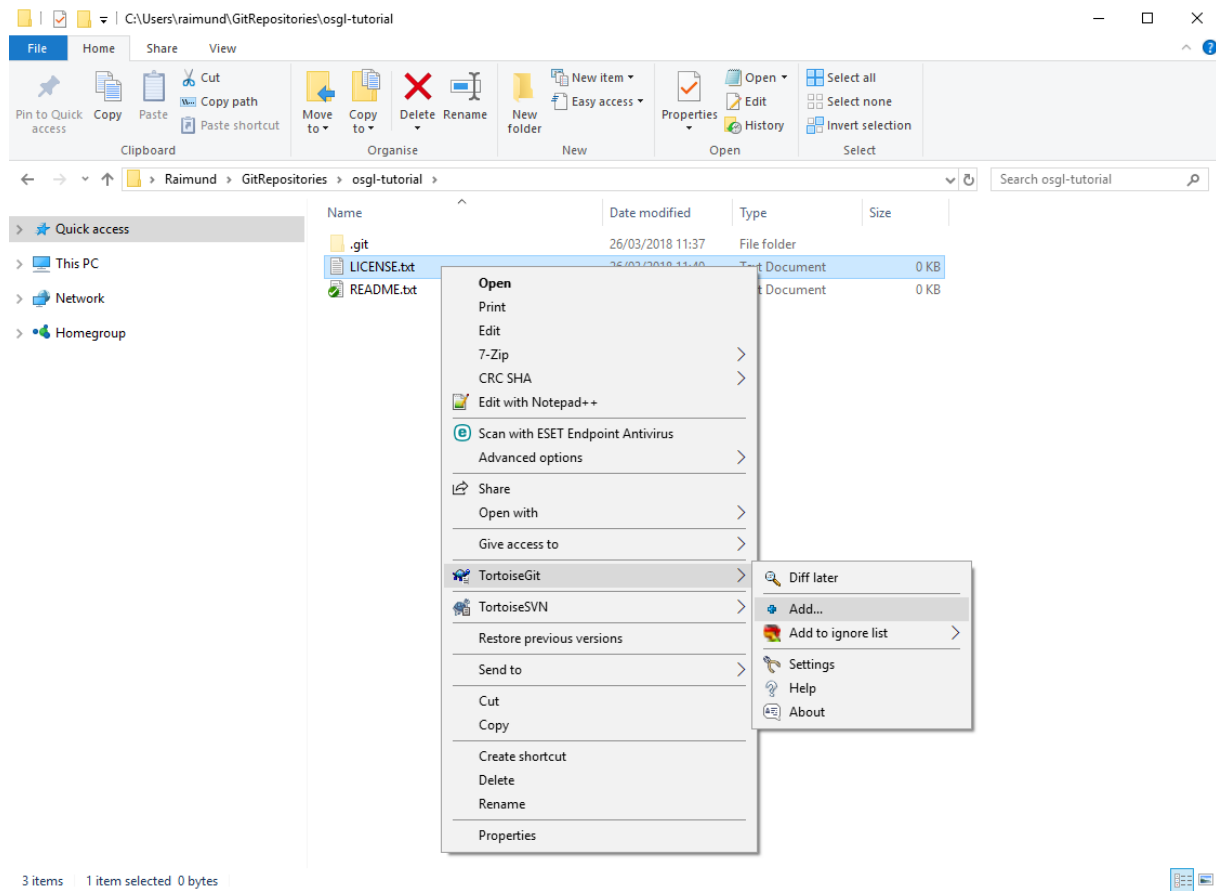
c) Press “Close”:



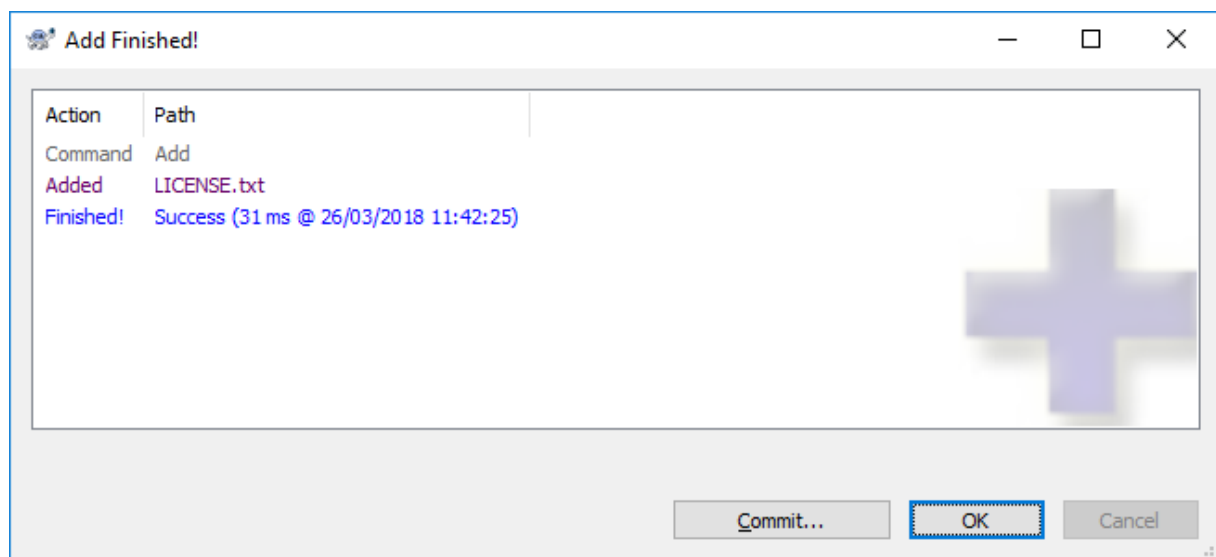
d) Enter the folder (here: ossl-tutorial) and right mouse click on the “README.txt” file and select “Edit with Notepad++” in the context menu:

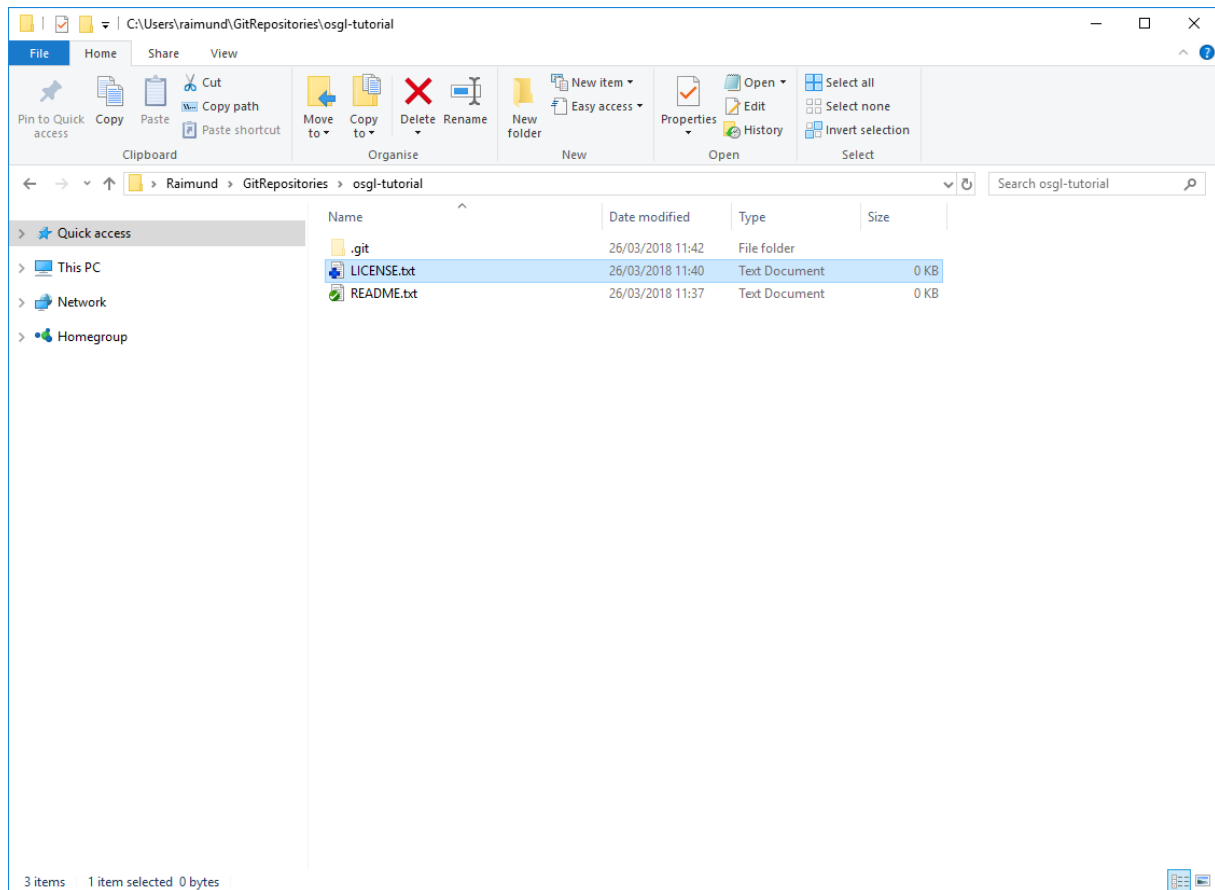


- ❖ Hint: If you create a new file in your Git folder, you first have to add it to the repository by selecting “TortoiseGit > Add...”:



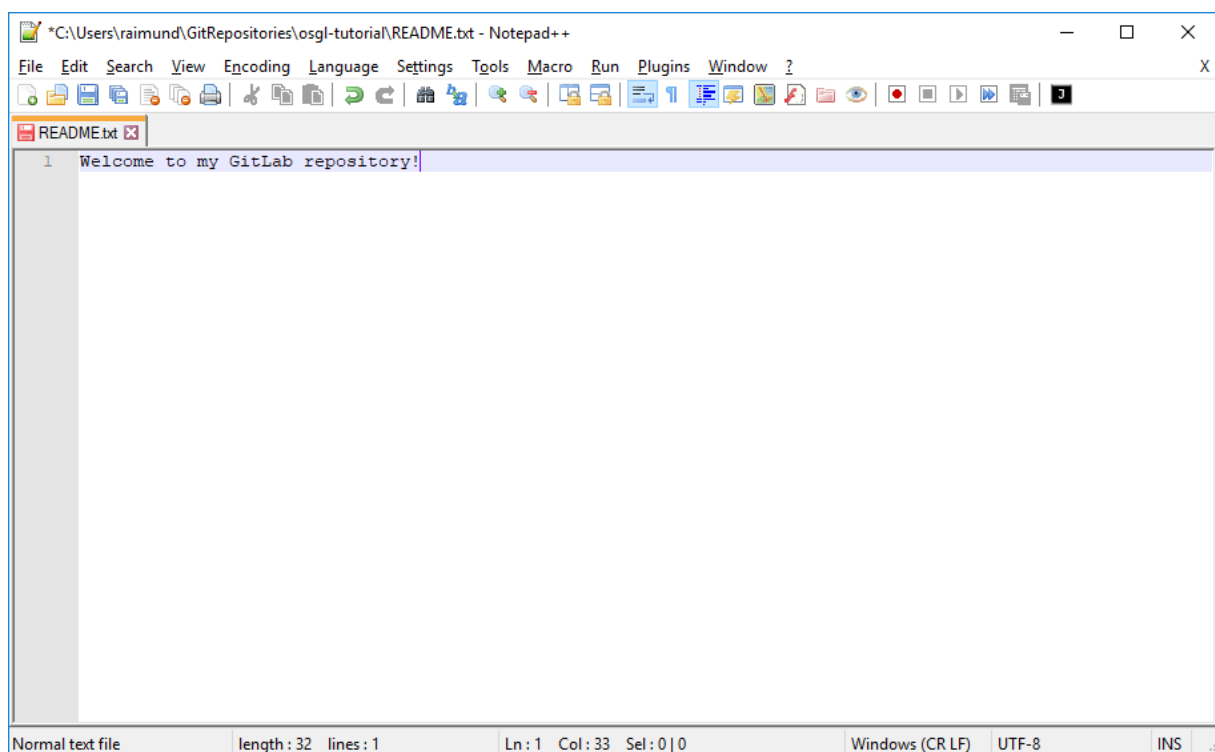
- ❖ Press “OK”:



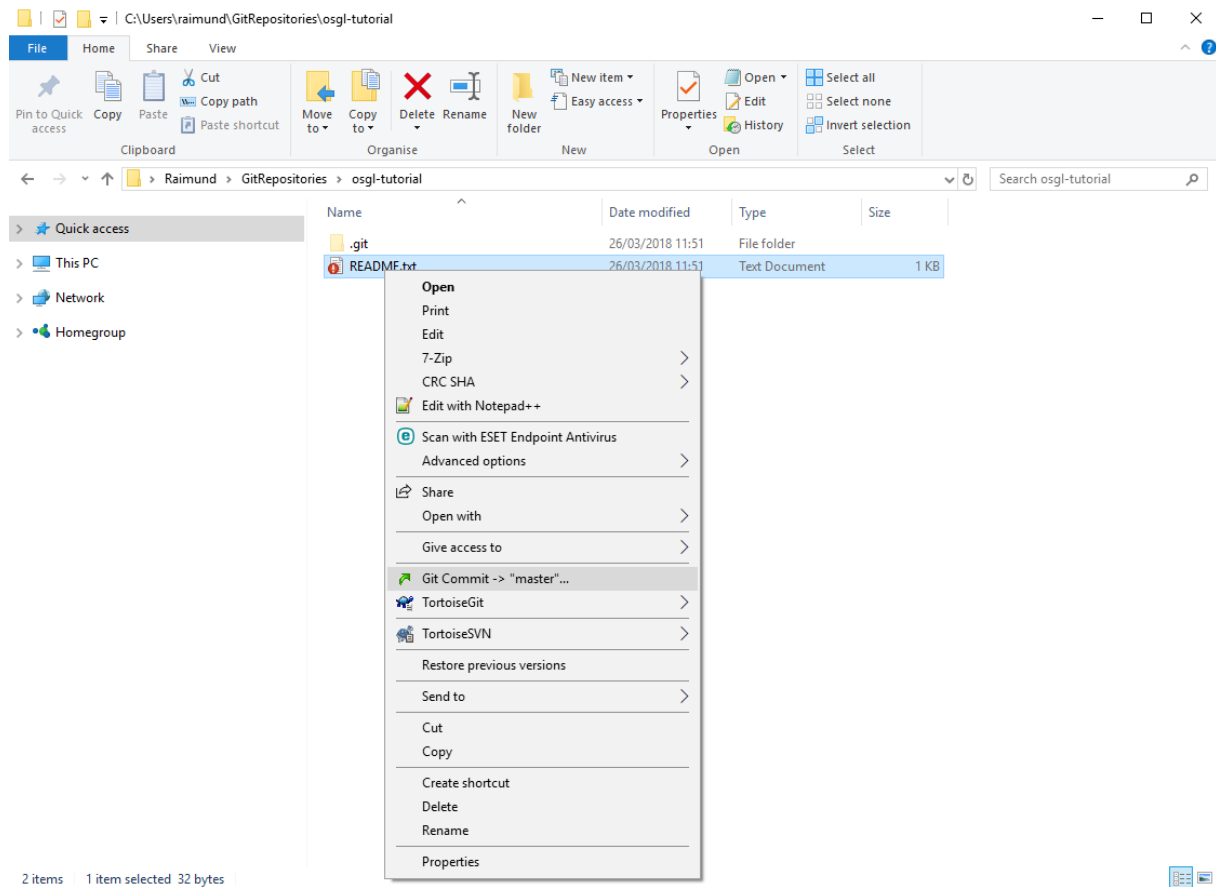


- ❖ Note: This was just a hint to add a new file to the GitLab repository via TortoiseGit. We will continue by updating the "README.txt" file.

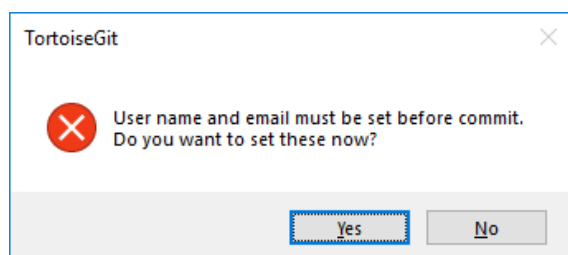
c) Change the contents of the "README.txt" file:



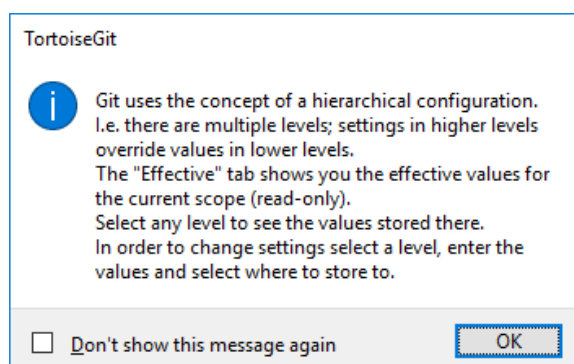
d\ Save the file in Notepad++ (shortcut: Ctrl + S), right mouse click on the file in the Explorer and select “Git Commit -> “master””



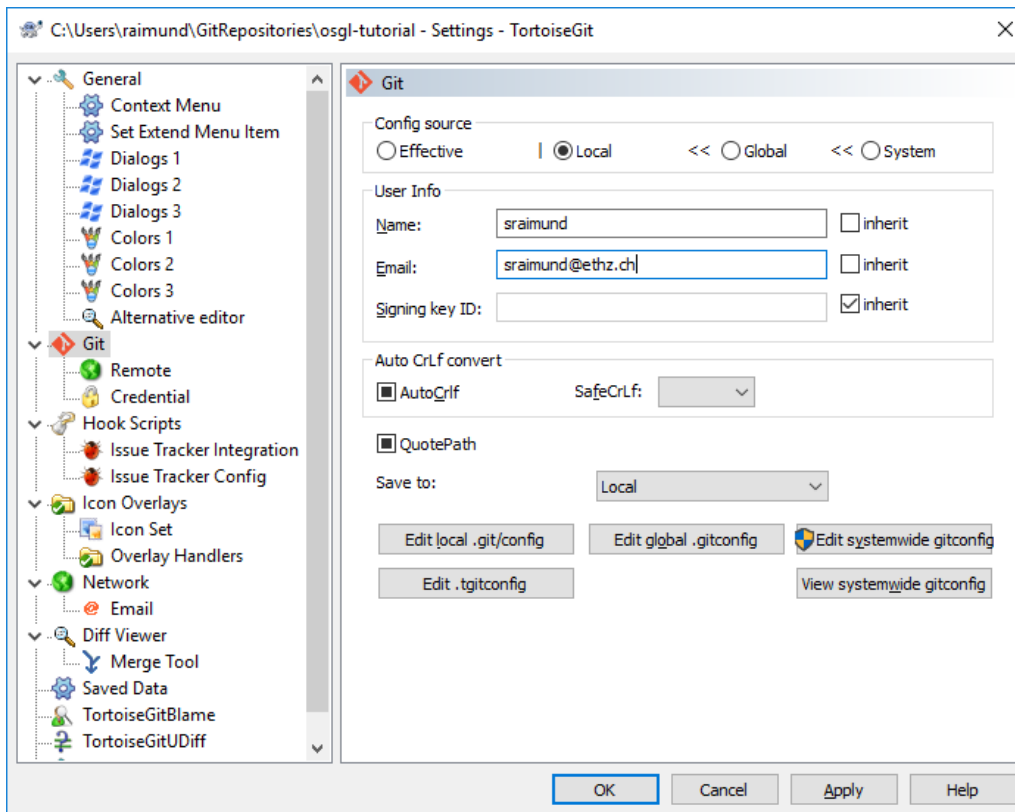
e\ Press “Yes”:



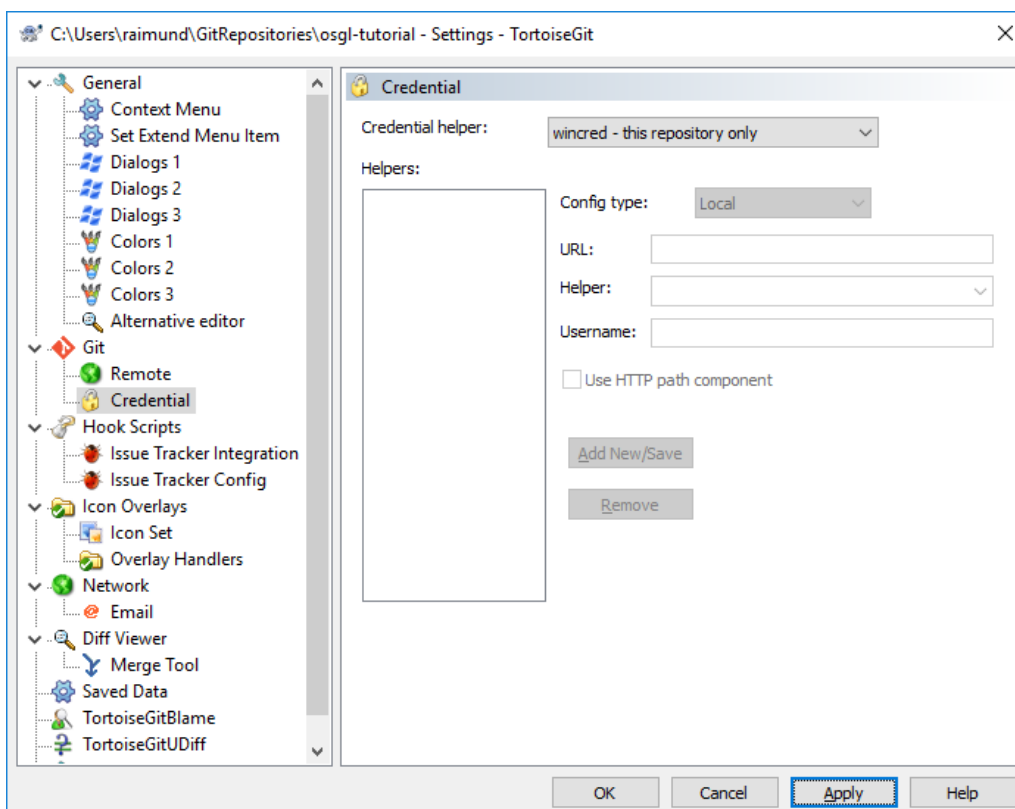
f\ Press “OK”:



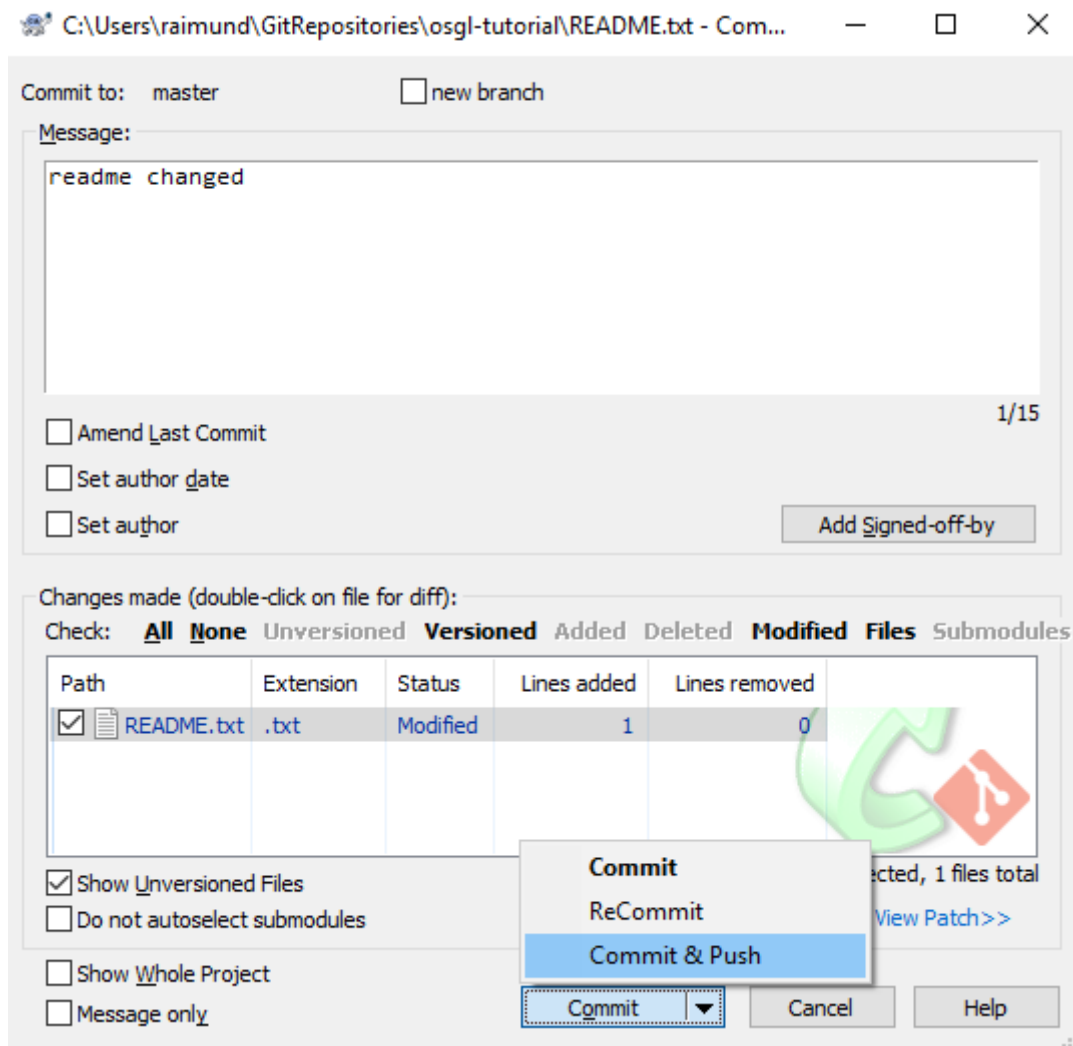
g) Enter your GitLab username and email address (choose Local as “Config source” and uncheck inherit next to “Name” and “Email”):



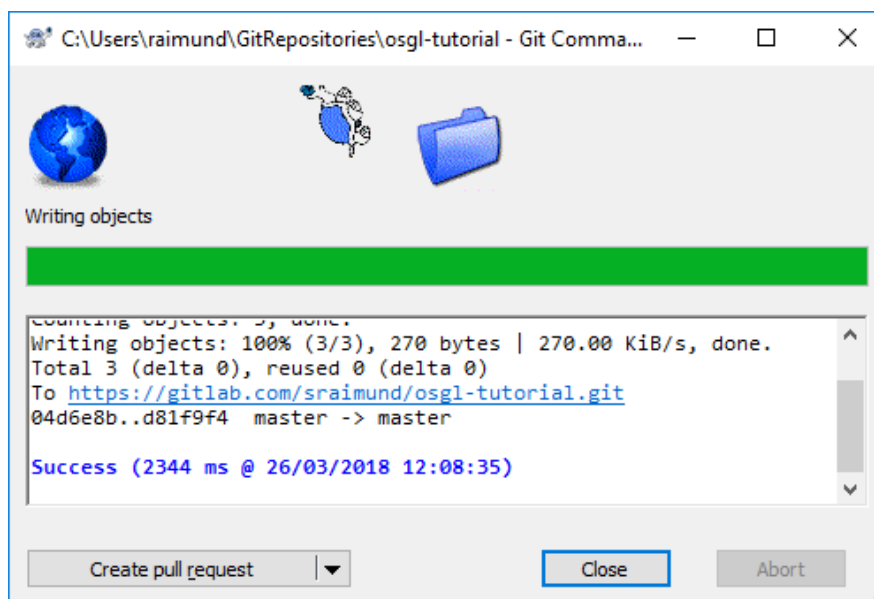
h) To store the password in future, navigate to Credential, select “wincred – this repository only” as a credential helper and press “Apply” and then “OK”:



i\ Enter a commit message and press “Commit & Push”:




j\ Press “Close”:



k\ Check in your web browser if the file has been changed in your GitLab repository by refreshing your GitLab repository (here: <https://gitlab.com/sraimund/osgl-tutorial>):

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
Enable in settings


master ▼ osgl-tutorial / + ▼History🔍 Find file🔄 ▼



readme changed
Raimund authored about a minute ago

d81f9f47 

Name	Last commit	Last update
 README.txt	readme changed	about a minute ago

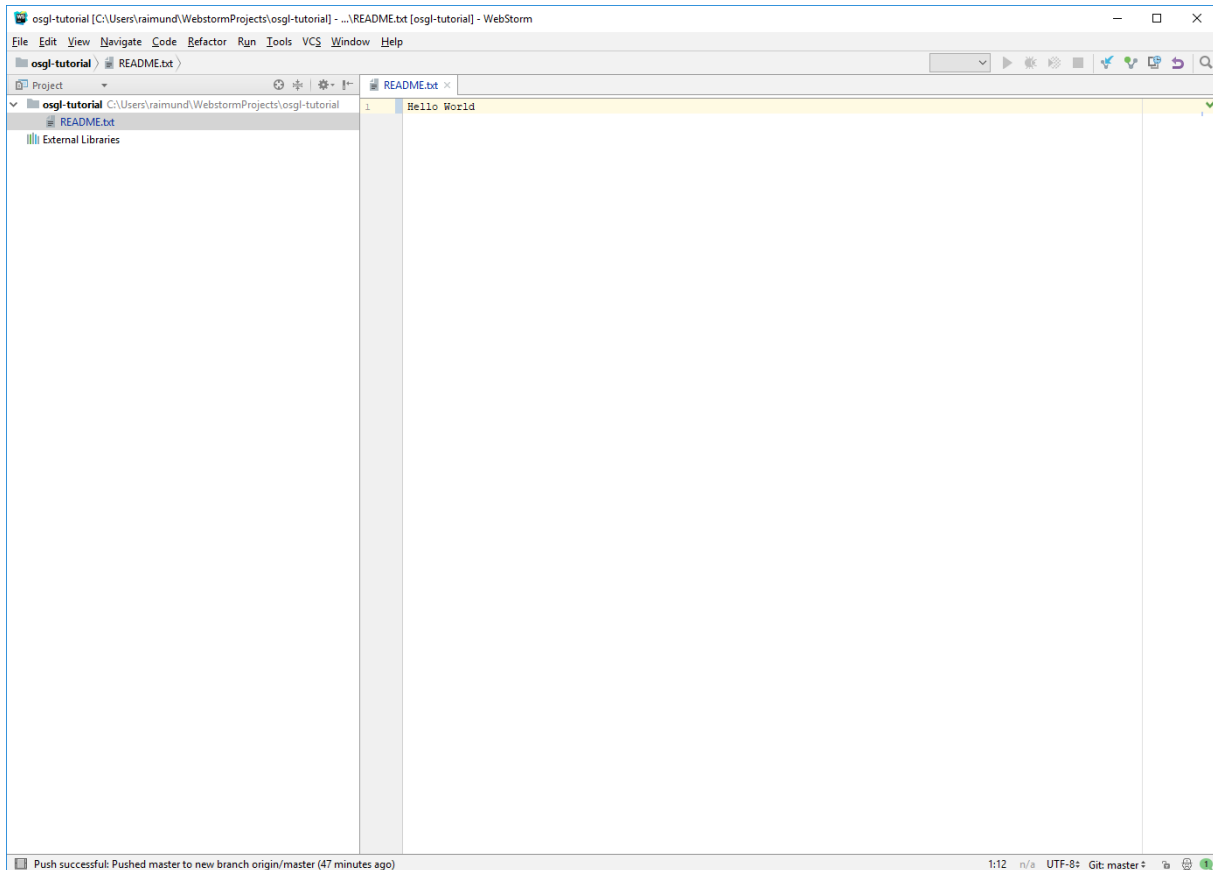
 **README.txt**

```
Welcome to my GitLab repository!
```

5. Handle a merge conflict

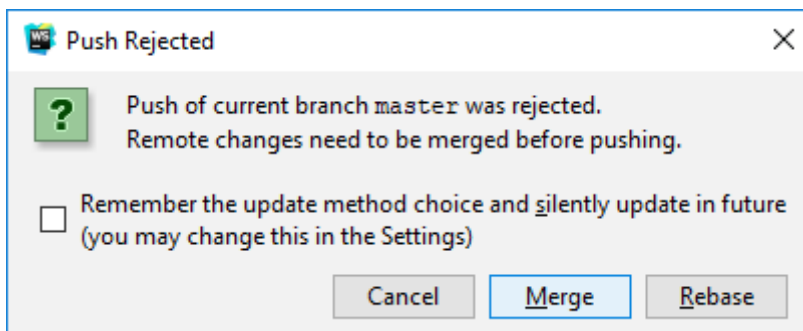
5.1 Handle a merge conflict via WebStorm

a) Do not pull the latest changes from your repository and change the contents of your file:

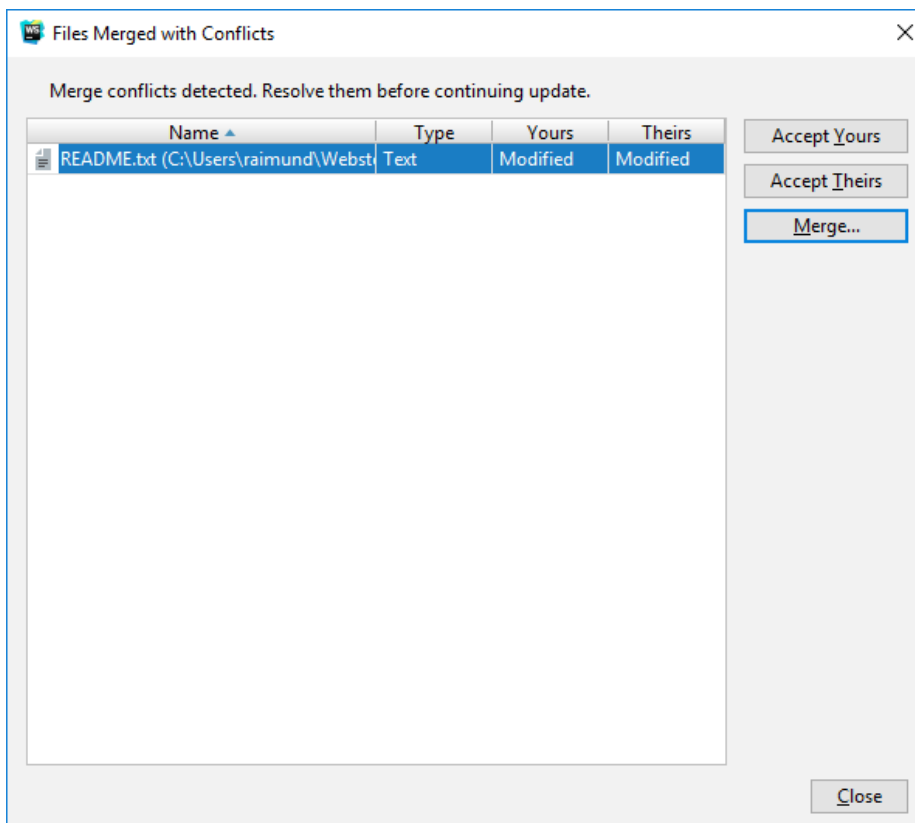


b) Save the file (Ctrl + S), and commit and push it to your repository (see [chapter 4.1](#))

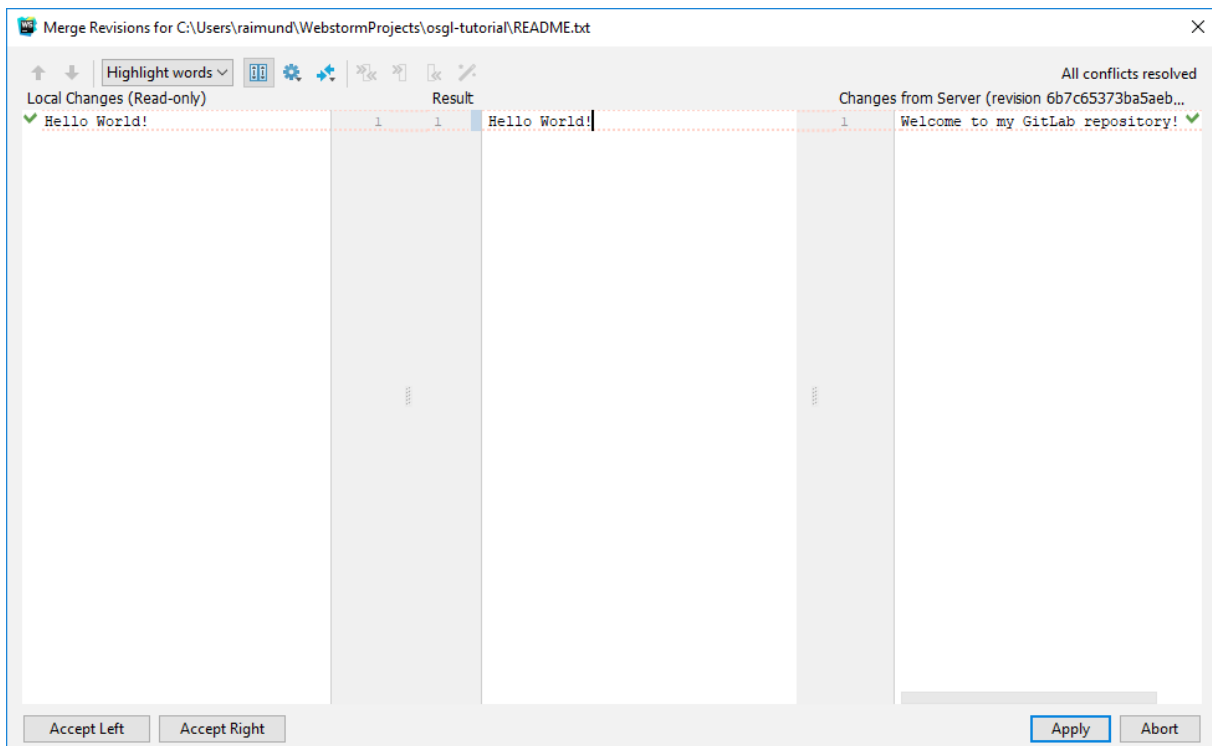
c) Press “Merge” when you receive this message:



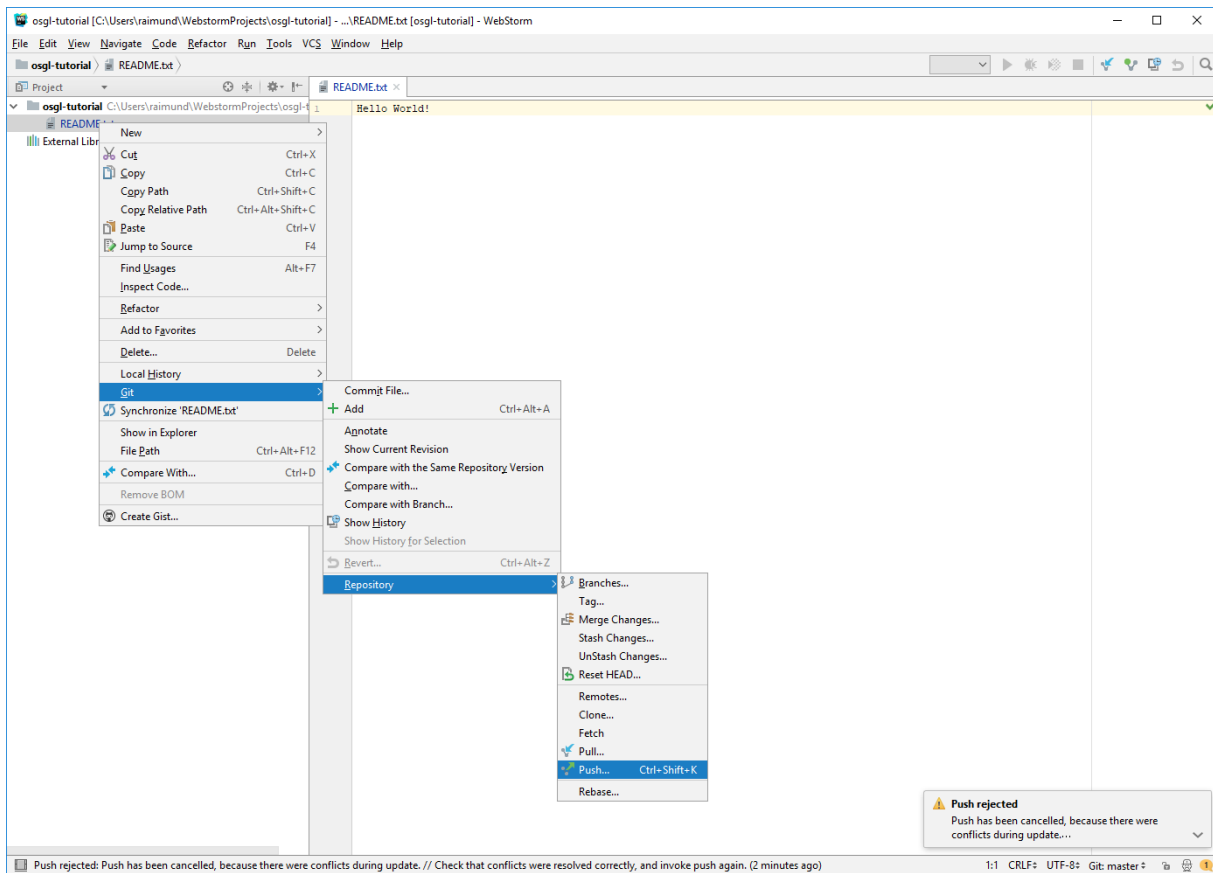
d) Press on the “Merge...” button to solve the merge conflict:



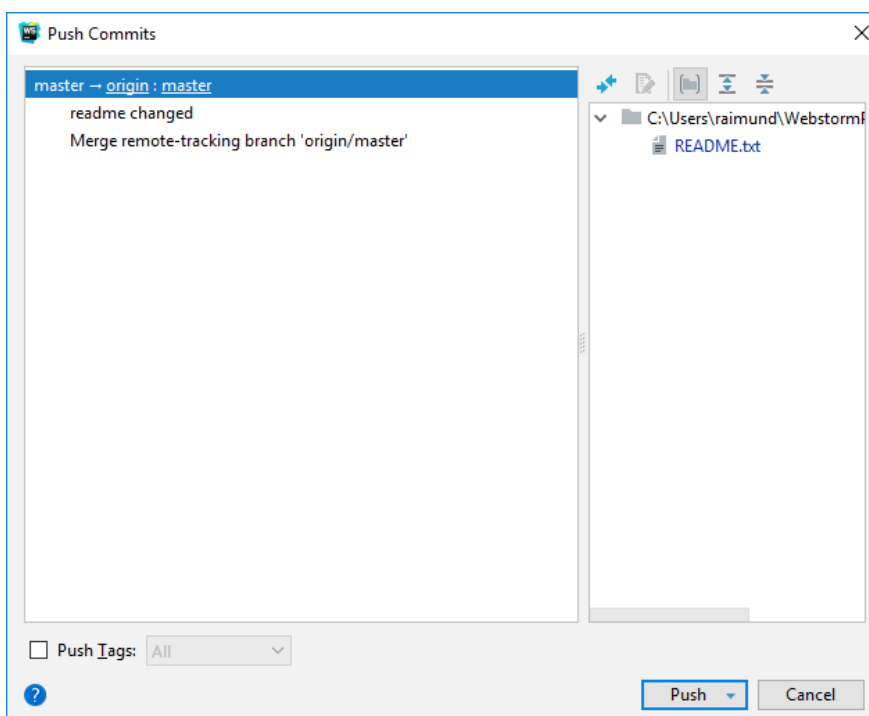
e) Select the line you want to keep by clicking on “>>”, reject the line you want to discard by clicking on “x”. If you are done, press “Apply”:



f) Right mouse click on the file and select “Git > Repository > Push...” to upload the merged file to your repository:













g) Press “Push”:



h) Check in your web browser if the file has been changed in your GitLab repository by refreshing your GitLab repository (here: <https://gitlab.com/sraimund/osgl-tutorial>):


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
Learn more in the [Auto DevOps documentation](#)

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master osgl-tutorial /  History Find file 

Merge remote-tracking branch 'origin/master' ...dd0804f6 

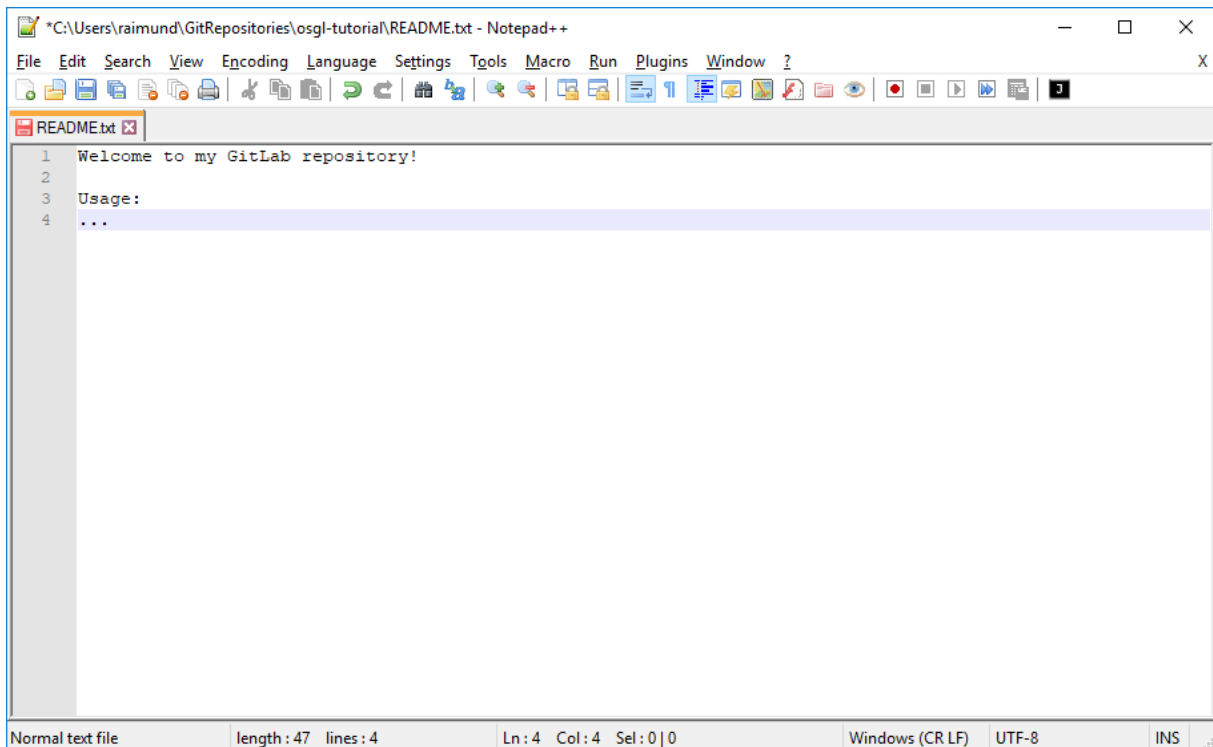
Name	Last commit	Last update
 README.txt	readme changed	5 minutes ago

 **README.txt**

Hello World!

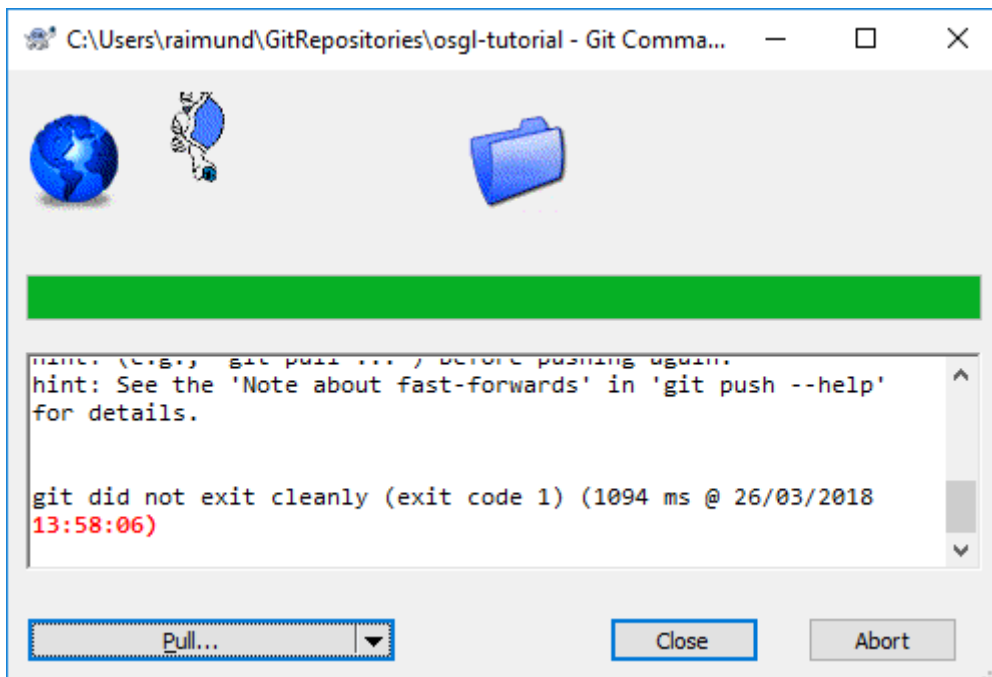
5.2 Handle a merge conflict via TortoiseGit

a) Do not pull the latest changes from your repository and change the contents of your file:

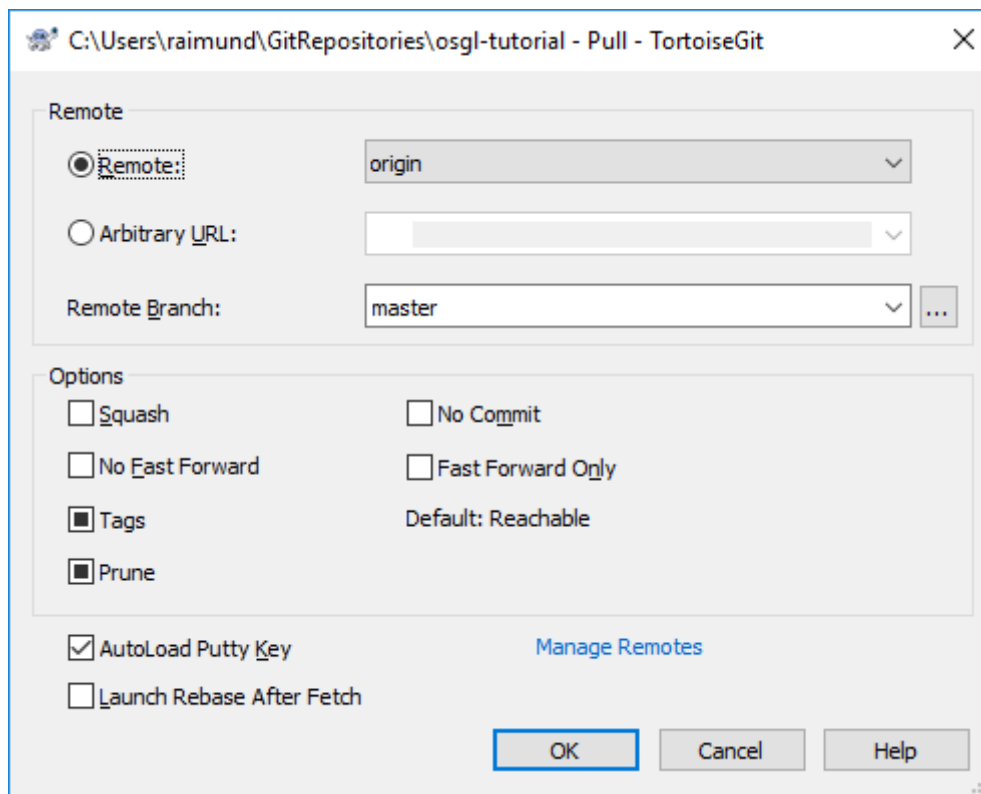


b) Commit and push the file to the repository (see [chapter 4.2](#))

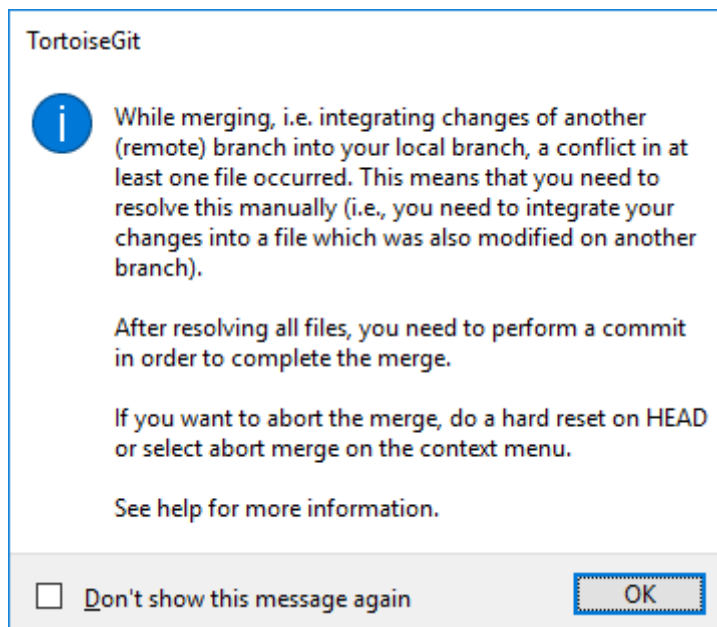
c) Press "Pull" when you receive this message:



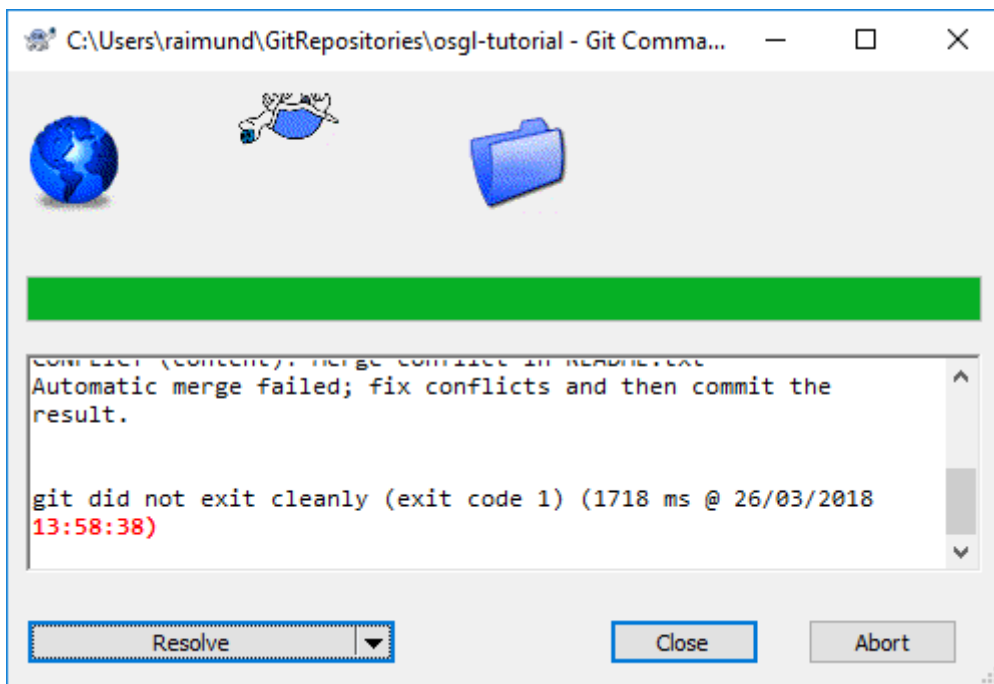
d\ Press “OK”:



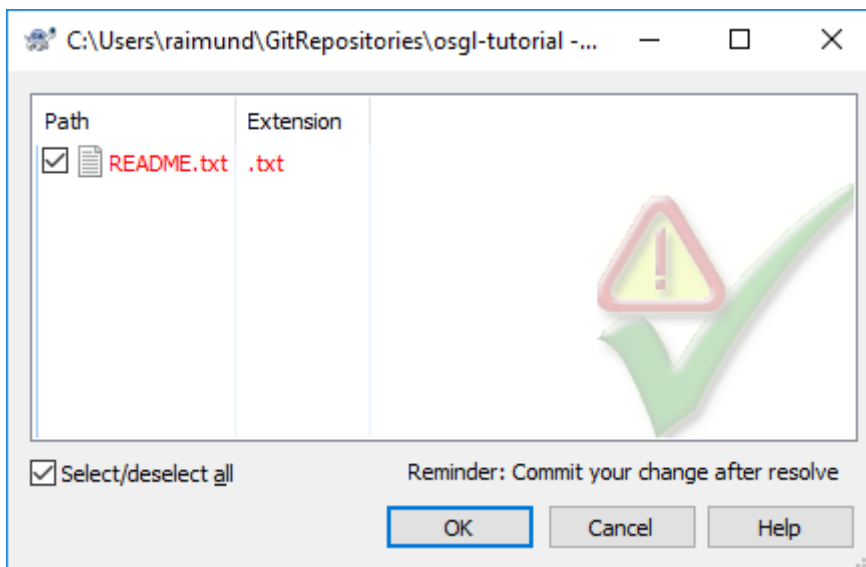
e\ Press “OK”:



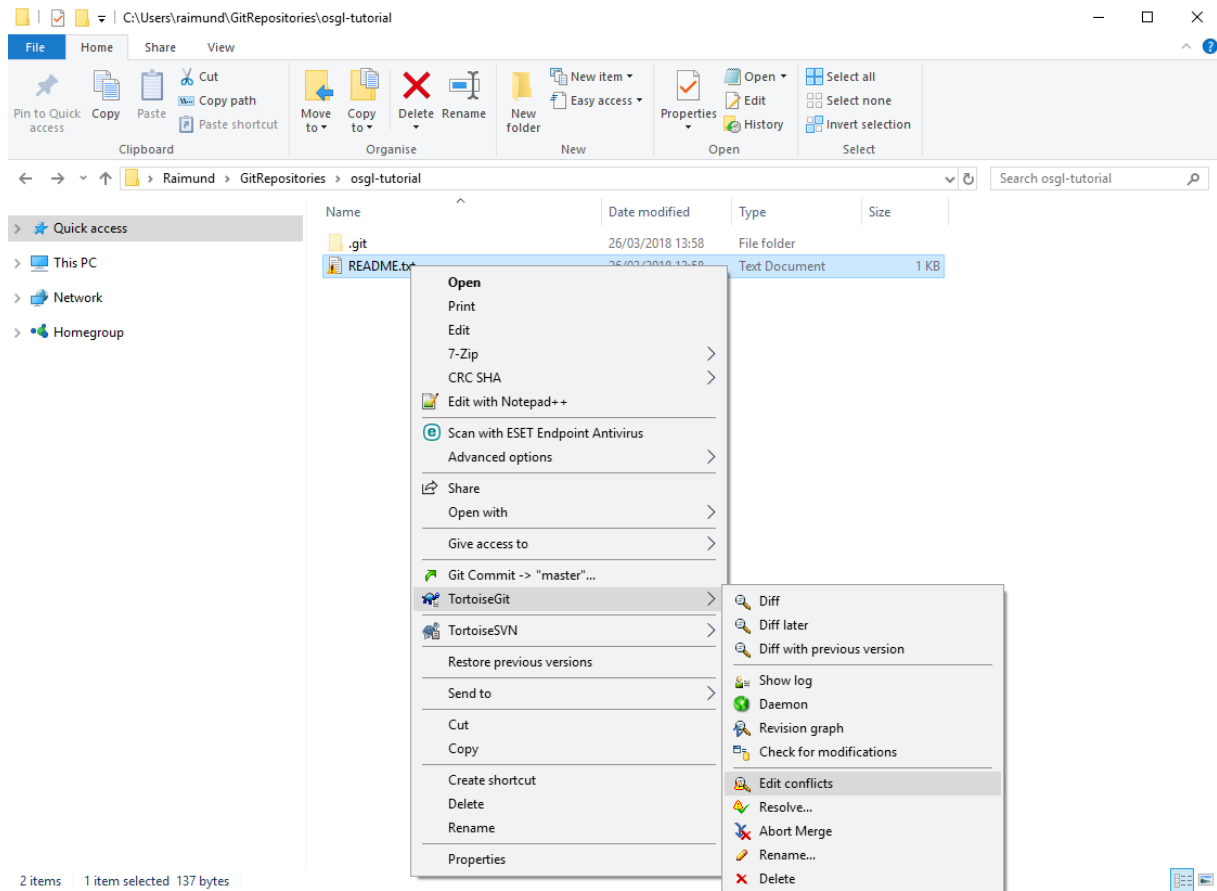
f) Press "Resolve":



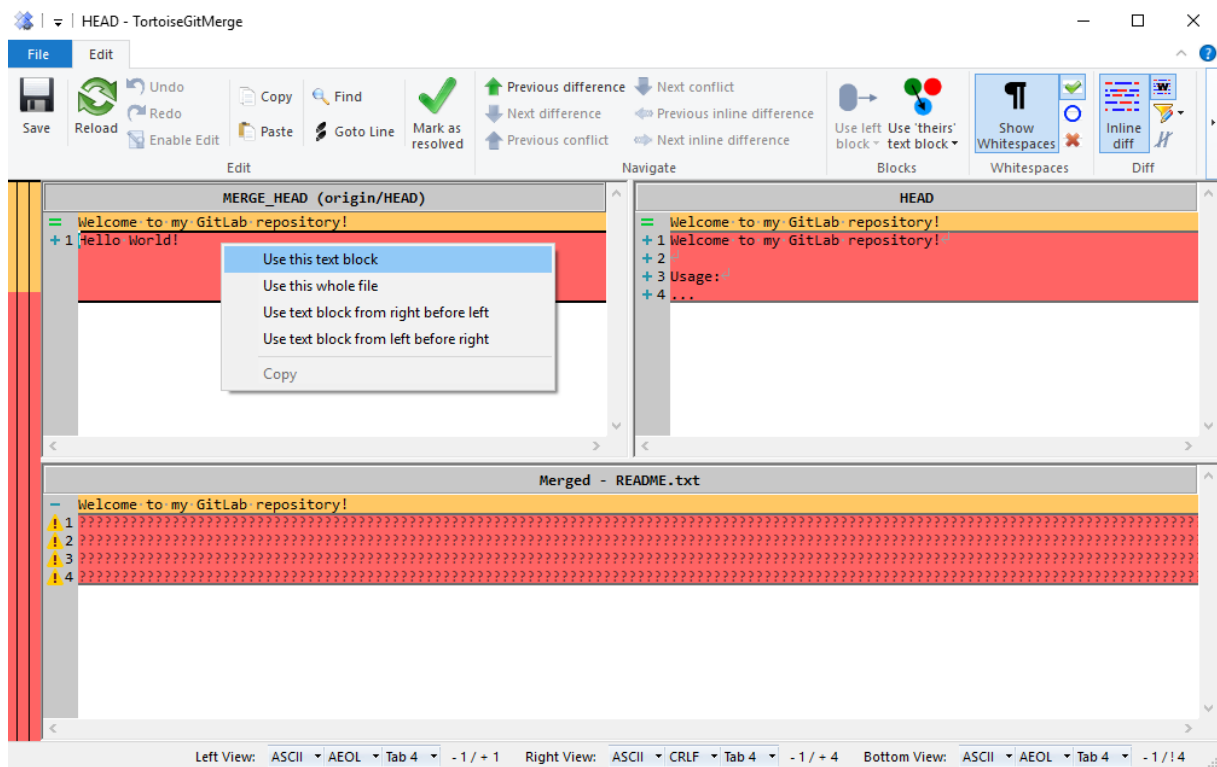
g) Double left mouse click on the file to solve the merge conflict:



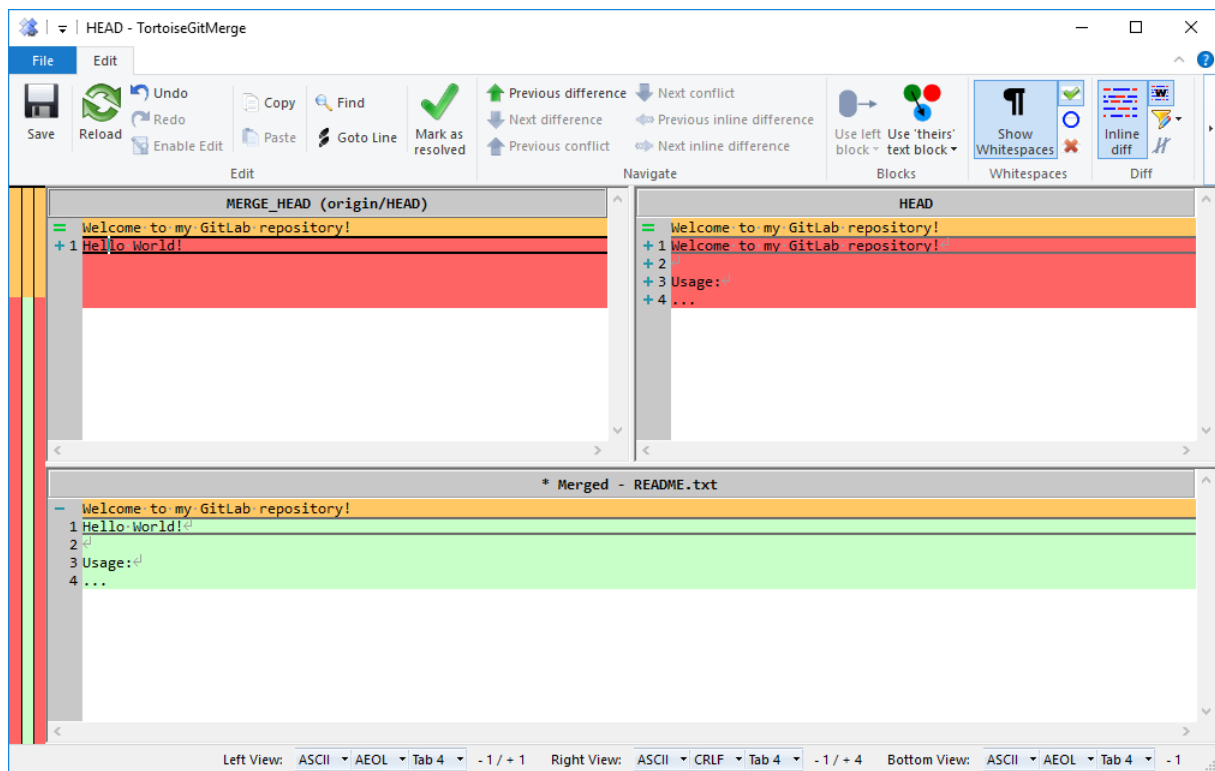
h) Alternatively press “Cancel” and right mouse click on the conflicted file and select “TortoiseGit > Edit conflicts”:



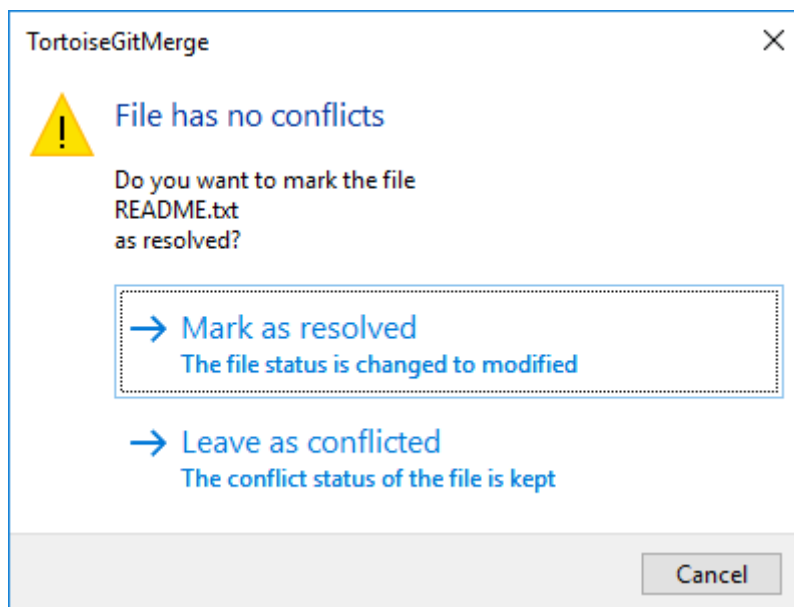
i) Right mouse click on the line which you want to keep and select “Use this text block”:



j\ Press “Save”:

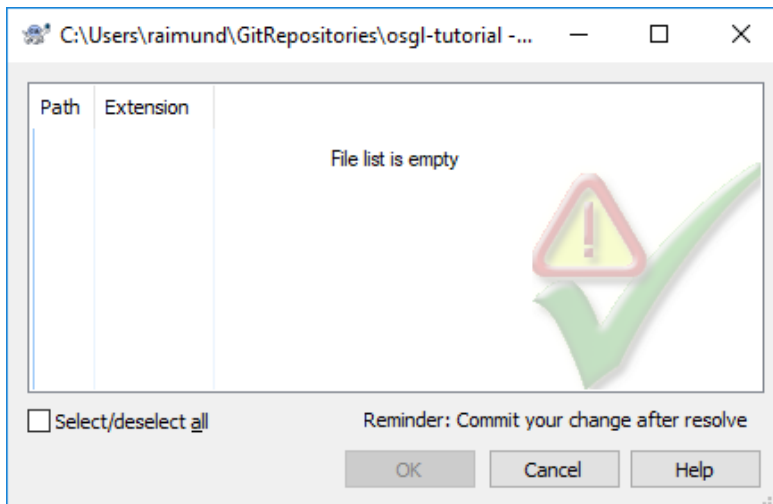


k\ Select “Mark as resolved”:



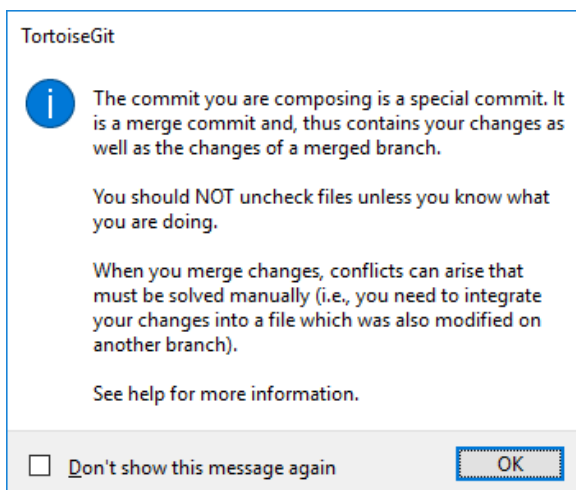
l\ Close the TortoiseGitMerge editor

m\ Press “Cancel”:

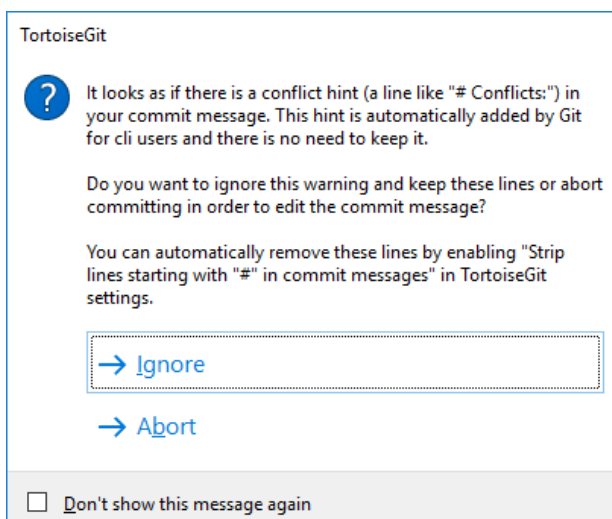


n\ Commit and push the merged file to the repository (see [chapter 4.2](#))

o\ Press “OK” when you encounter this message:




p\ Press “Ignore” when you encounter this message or type in another commit message:



q\ Check in your web browser if the file has been changed in your GitLab repository by refreshing your GitLab repository (here: <https://gitlab.com/sraimund/osgl-tutorial>):


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Auto DevOps (Beta) ✕

It will automatically build, test, and deploy your application based on a predefined CI/CD configuration.


[Learn more in the Auto DevOps documentation](#)


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Name	Last commit	Last update
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 **README.txt**

```
Hello World!
```

Usage:
...

Raimund Schnürer, 26.03.2018

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