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.

Contents

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:

❖ 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

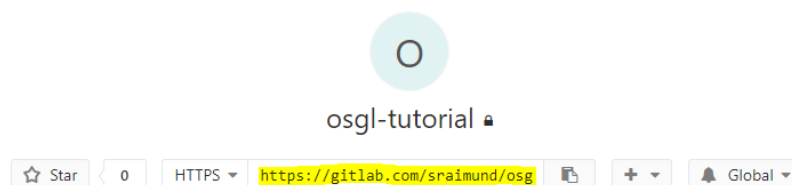a\ Sign in to GitLab, press on + in the header and select "New project", or select the green "New project" button:
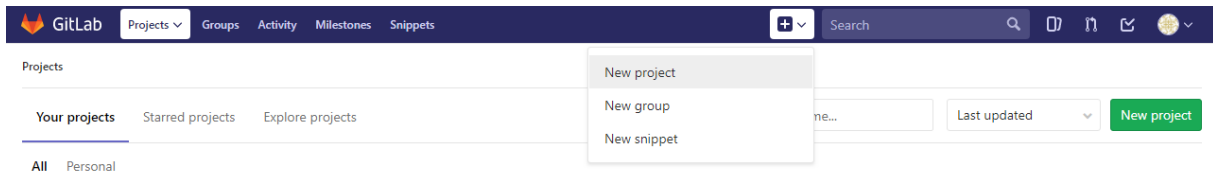
b\ Fill in the name of your project and press "Create project":

❖ 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:

3. Connect to your GitLab repository
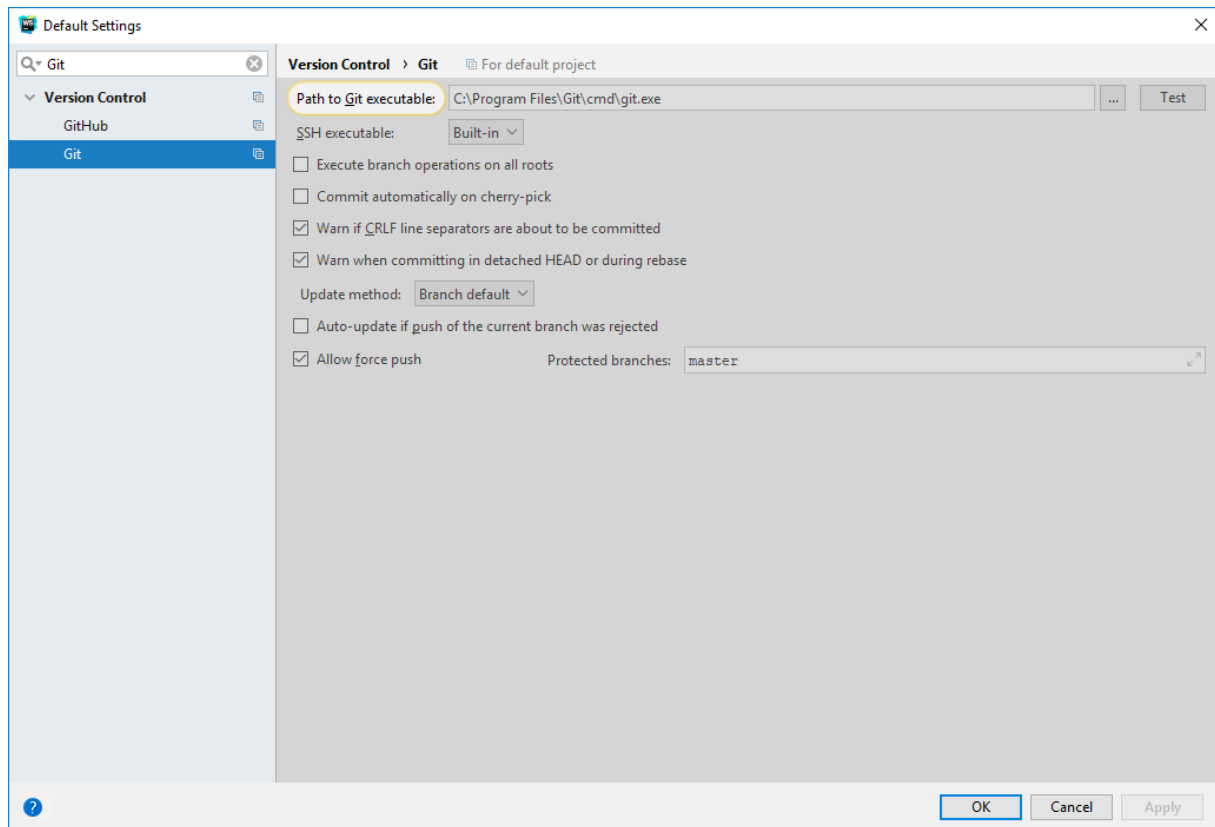
3.1 Connect to your GitLab repository via WebStorm

a\ Start WebStorm

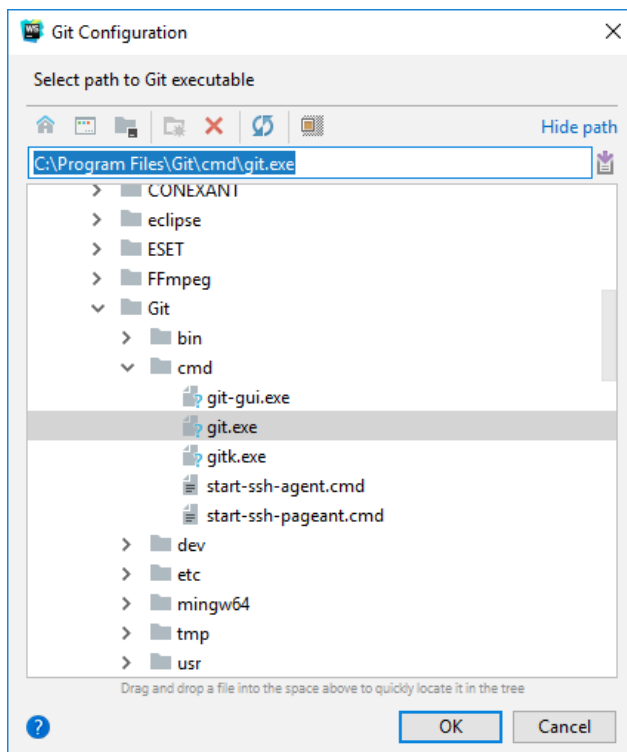   ❖ Hint: In case a project is already open, close the project ("File > Close Project").

b\ Click on "Check out from Version Control" and select "Git":
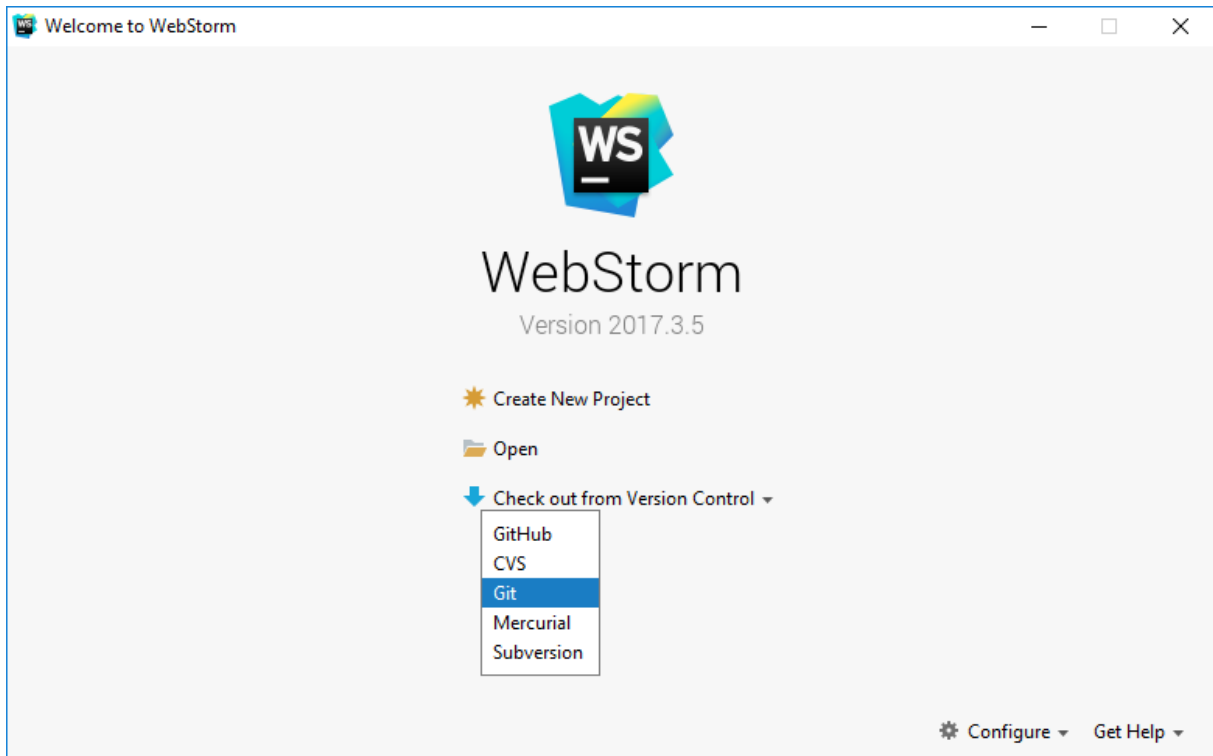
   ❖ Hint: In case path to git.exe is not configured correctly, click on "Configure" and search for "Git" in the search field of the settings:
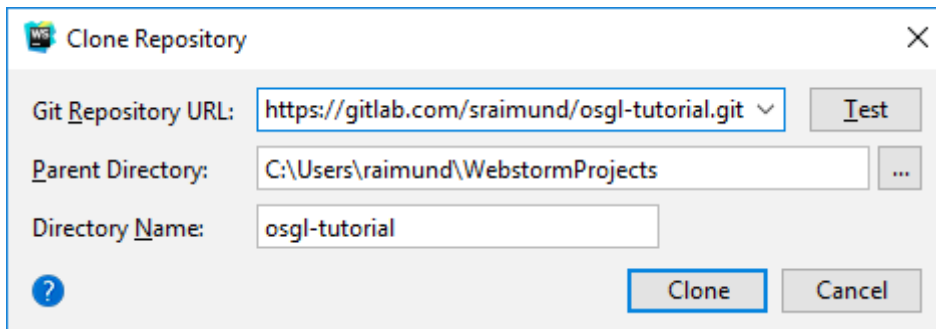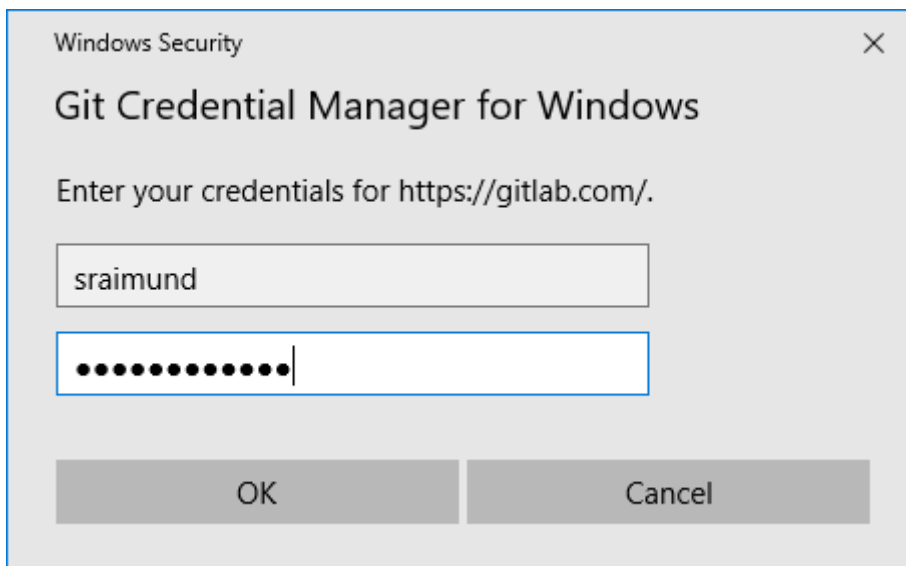
❖ Press the "…" button and choose the path to the Git executable:

❖ 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
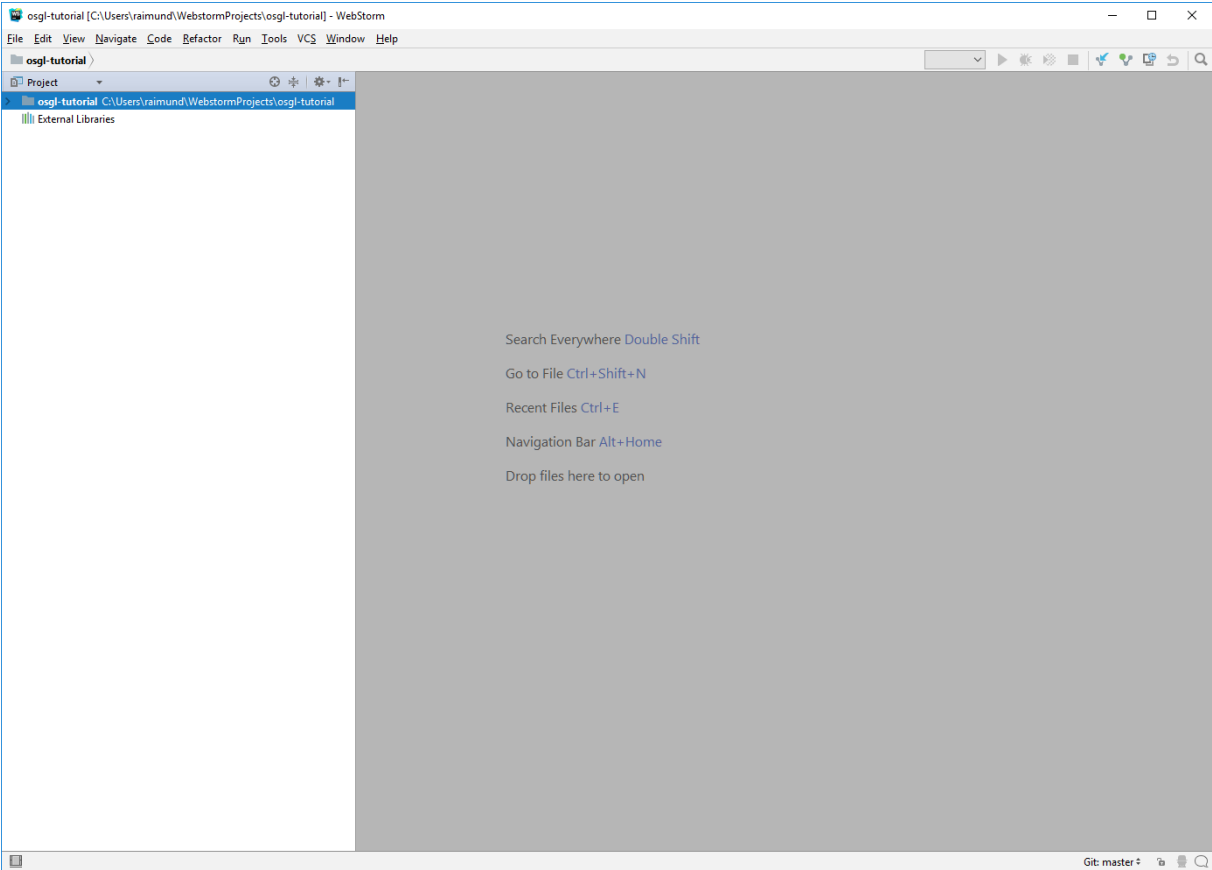
d\ Enter your GitLab username and password:
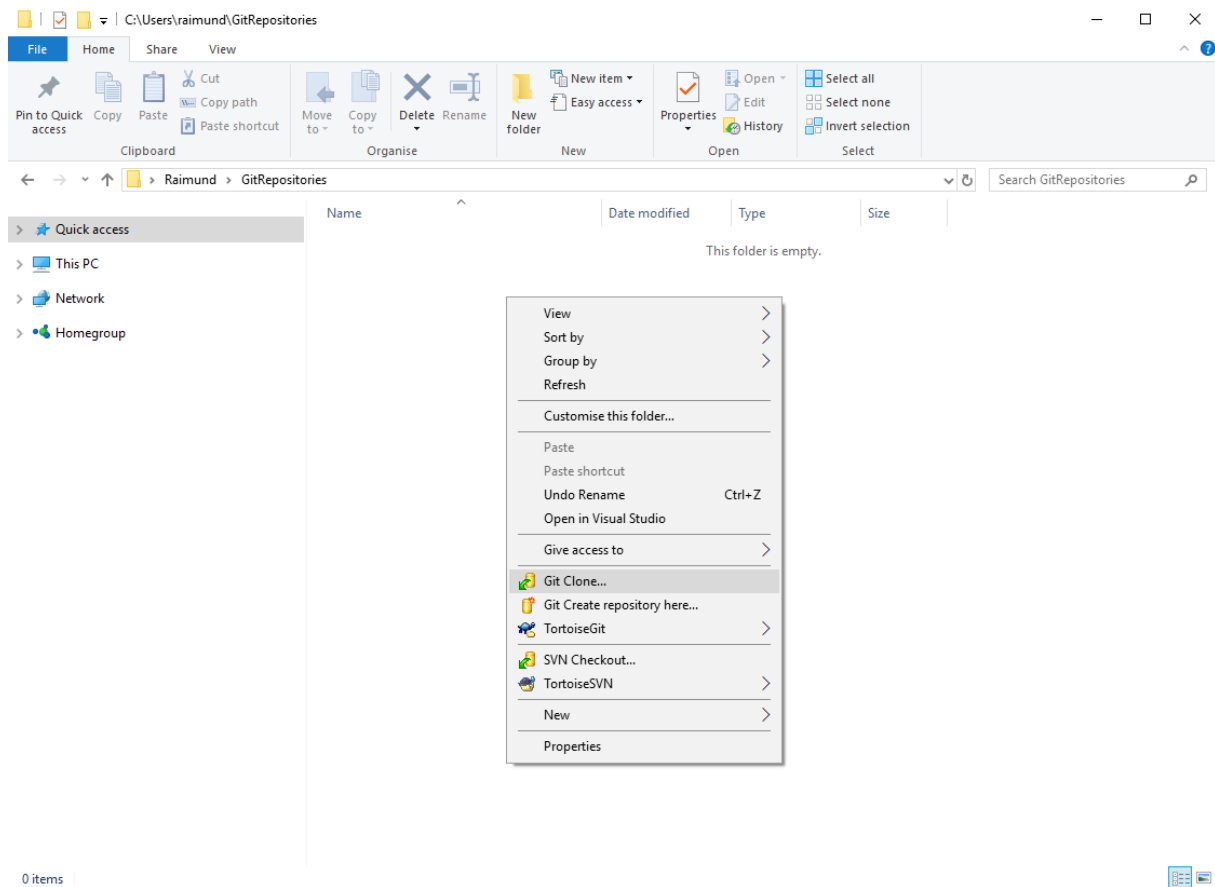

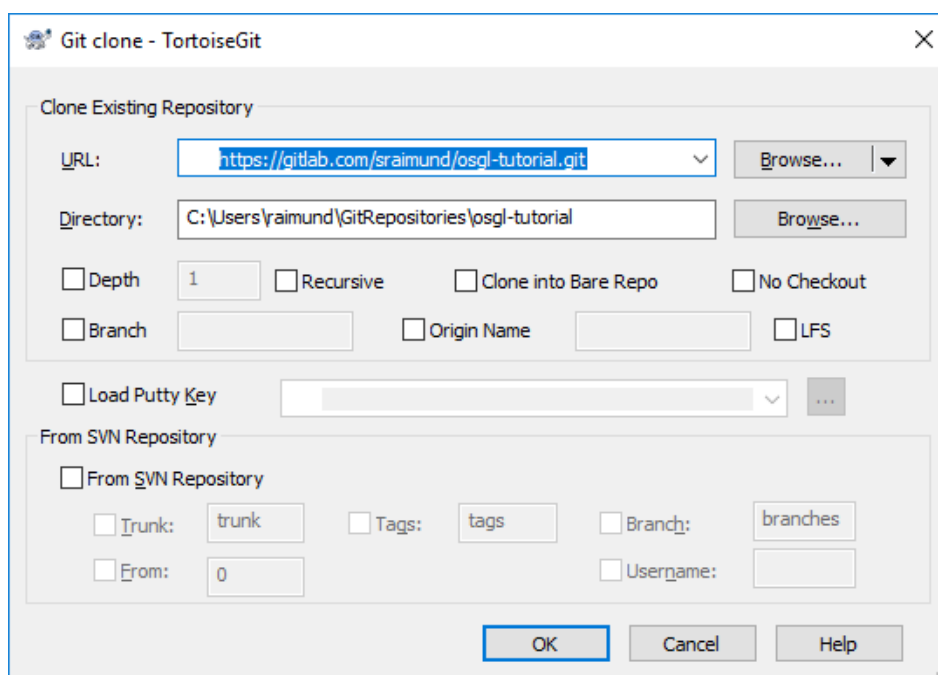e\ Press "Yes":
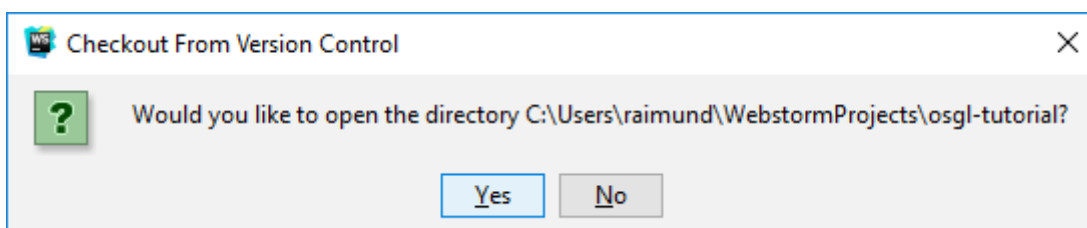
f\ You are now connected to your repository:

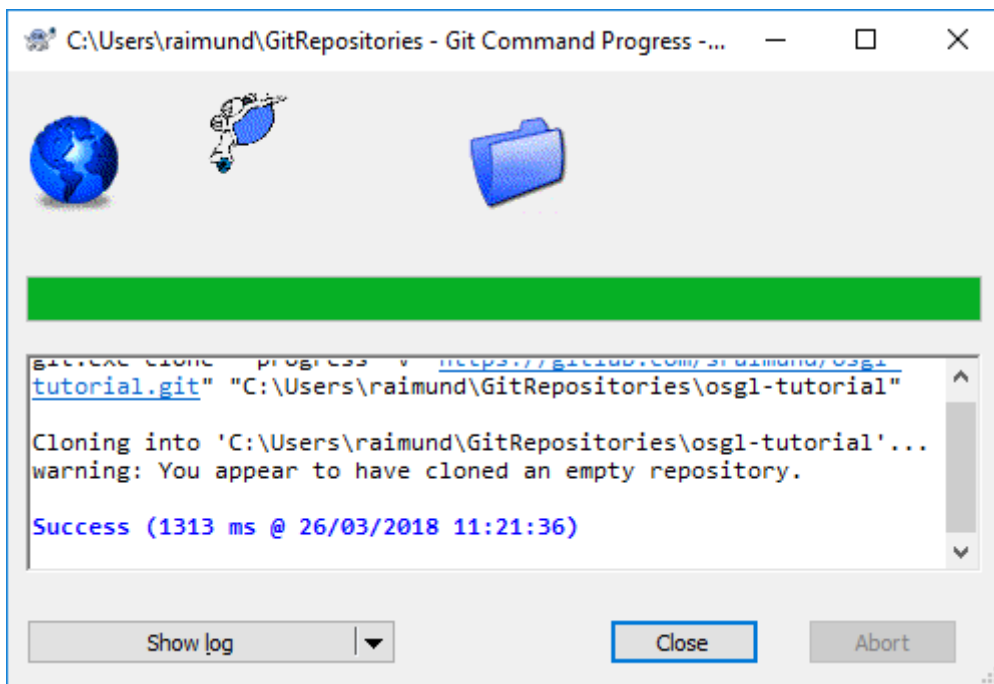## 3.2 Connect to your GitLab repository via TortoiseGit

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:
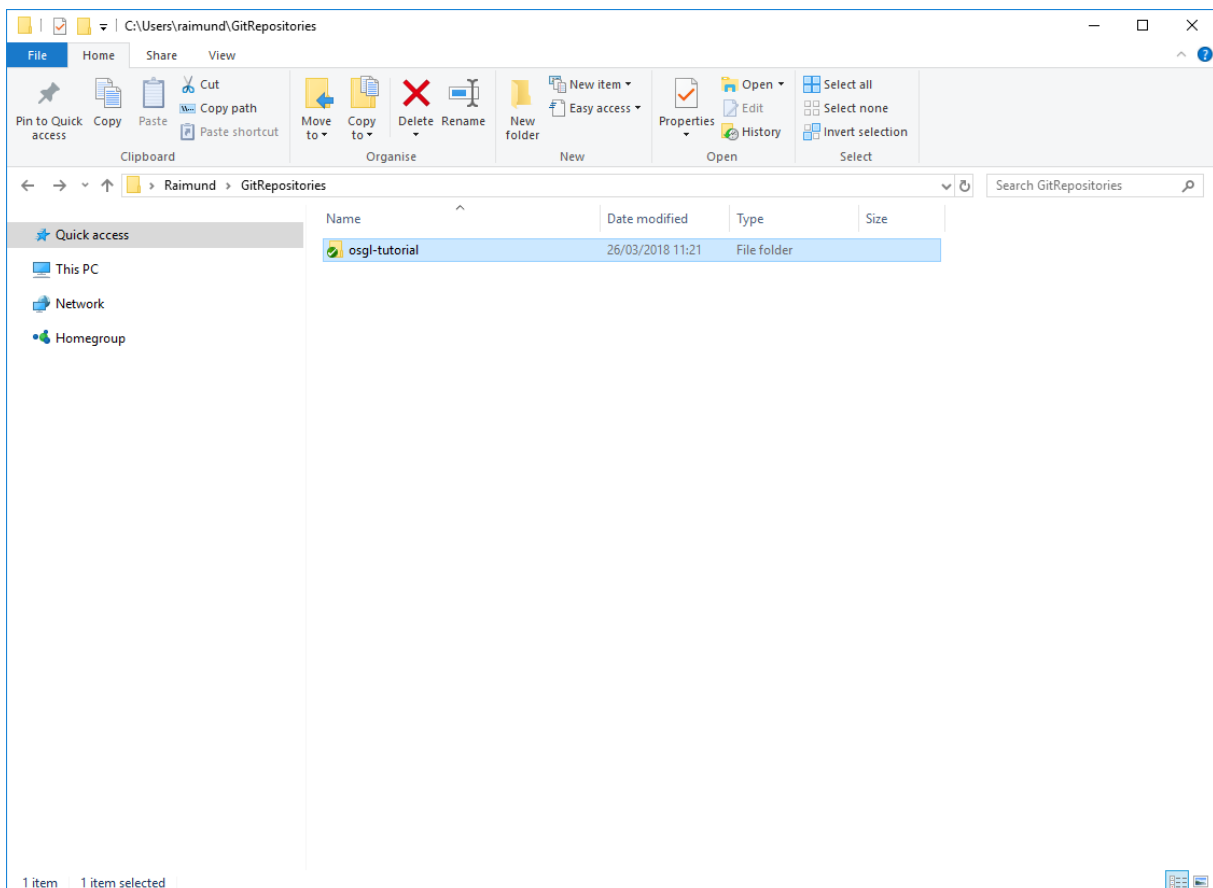
4. Upload a file to the GitLab repository

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:
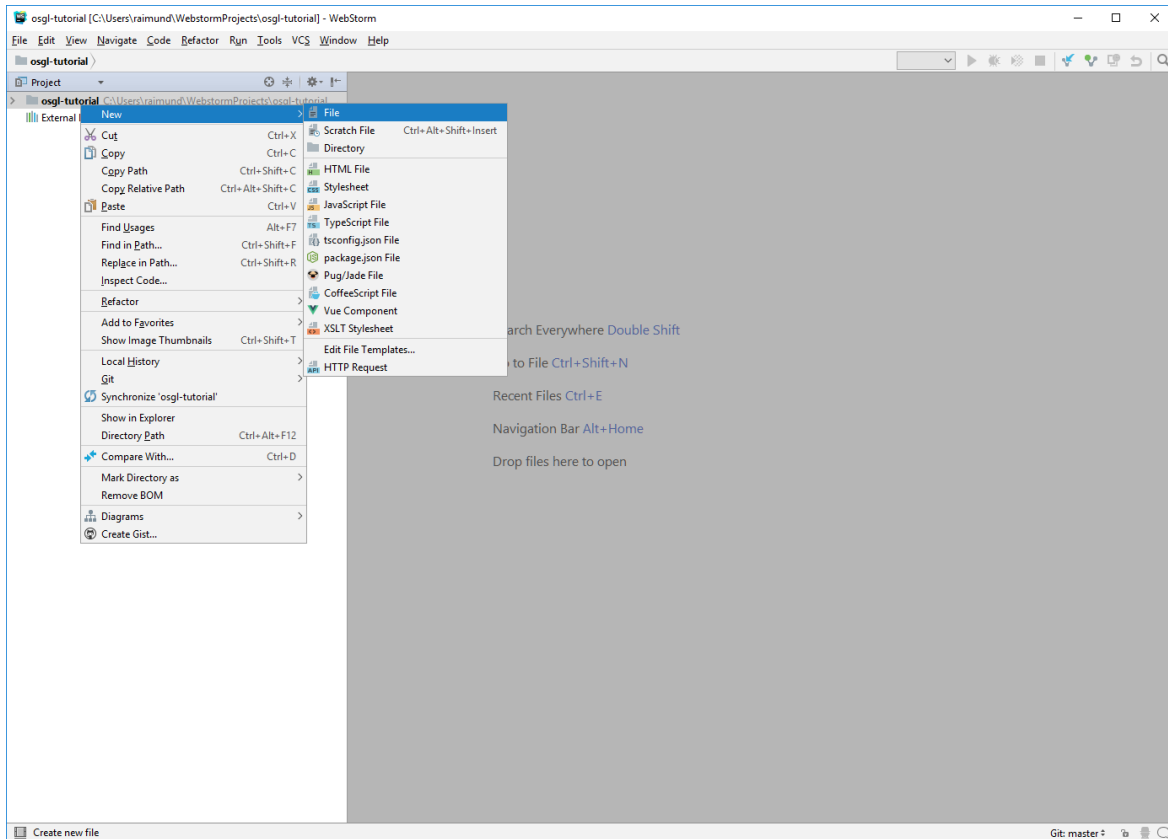
b\ Enter a file name:
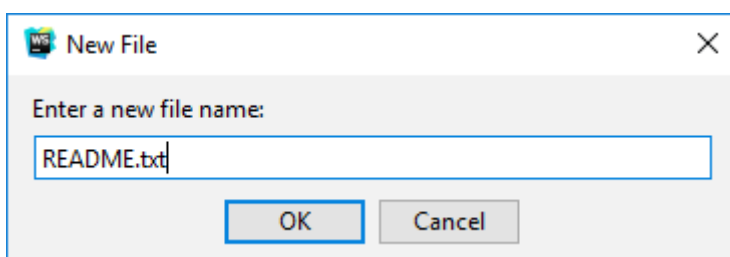
c\ Press "Yes" to put the file under version control:
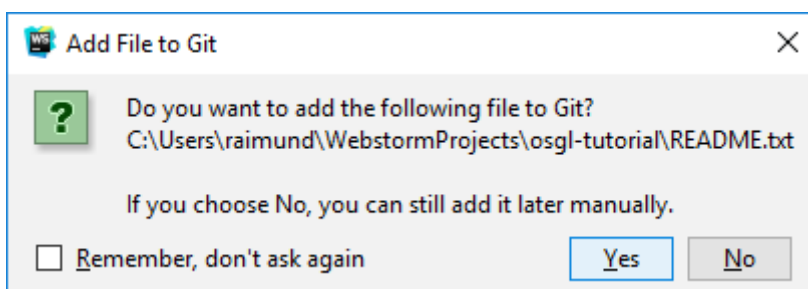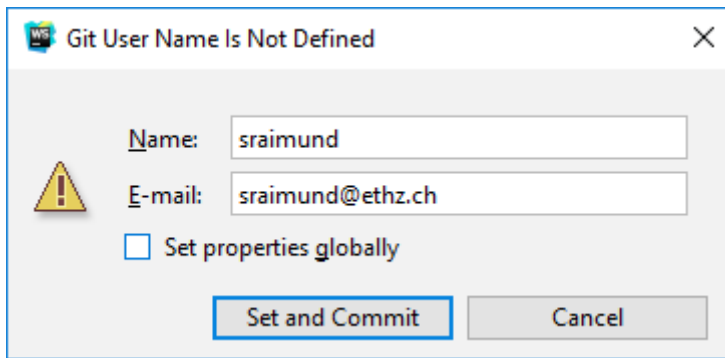
d\ Right mouse click on the file and select "Git > Commit File…" in the context menu:
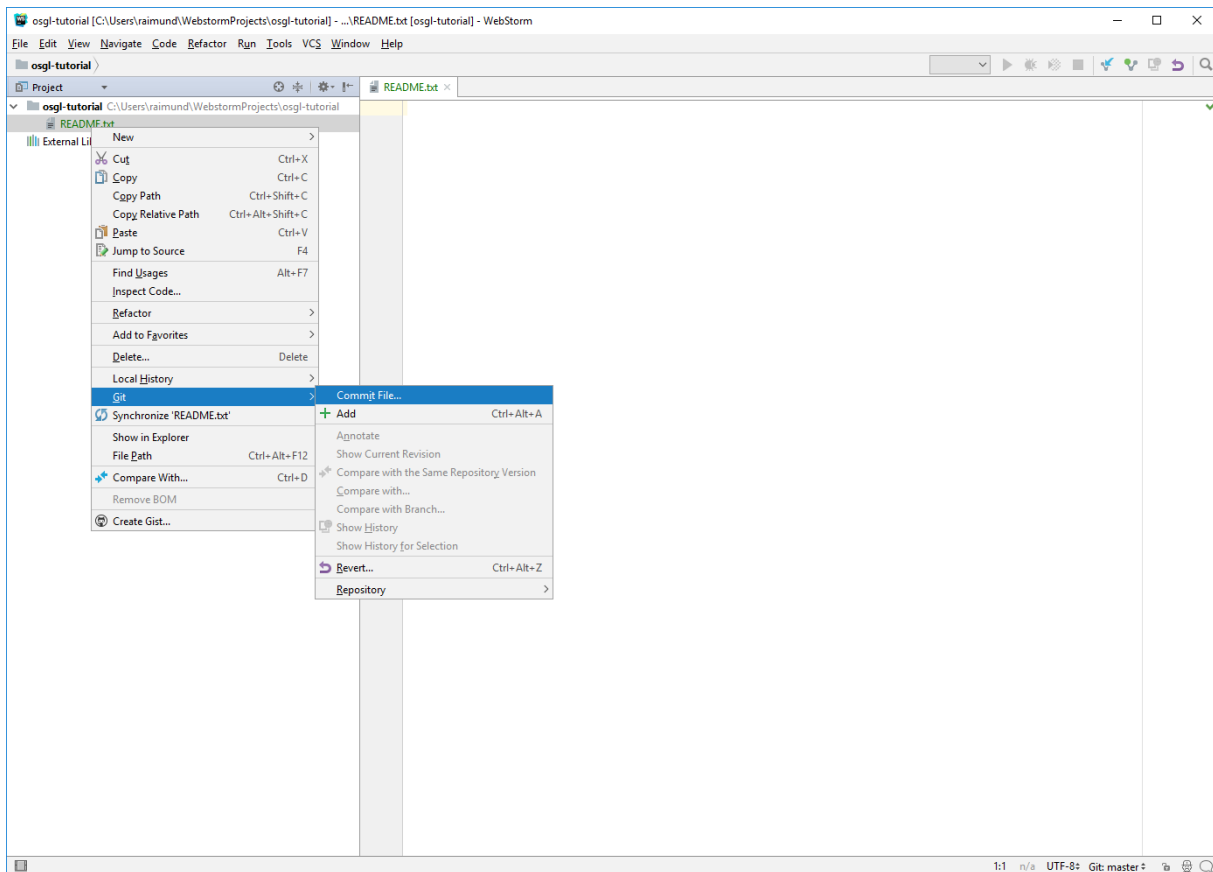
e\ Enter a commit message and click on "Commit > Commit and Push…":
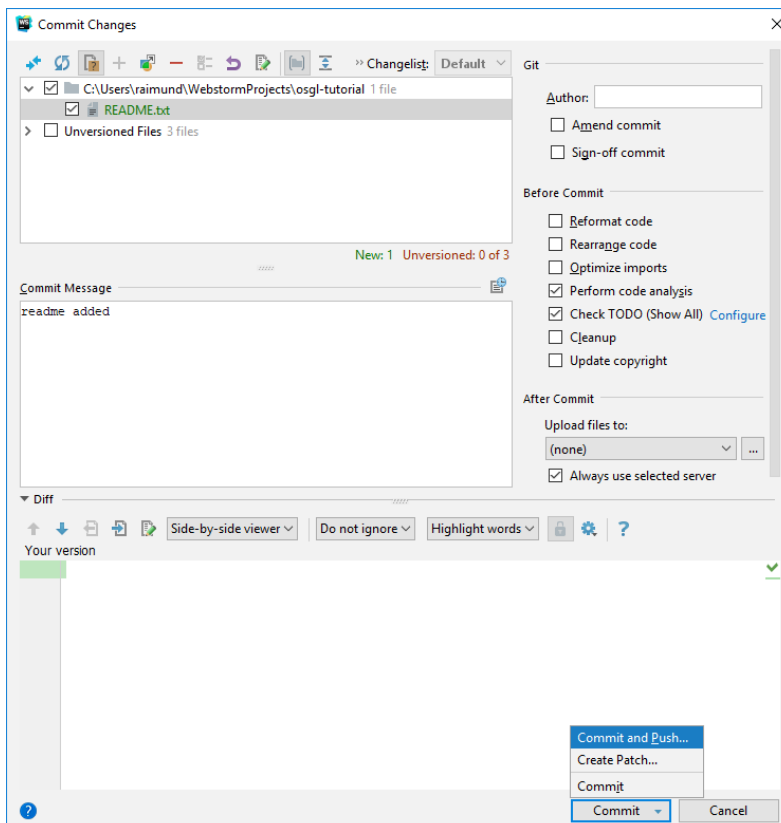
f\ Enter your GitLab username and your email address:

g\ Press "Push":

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):

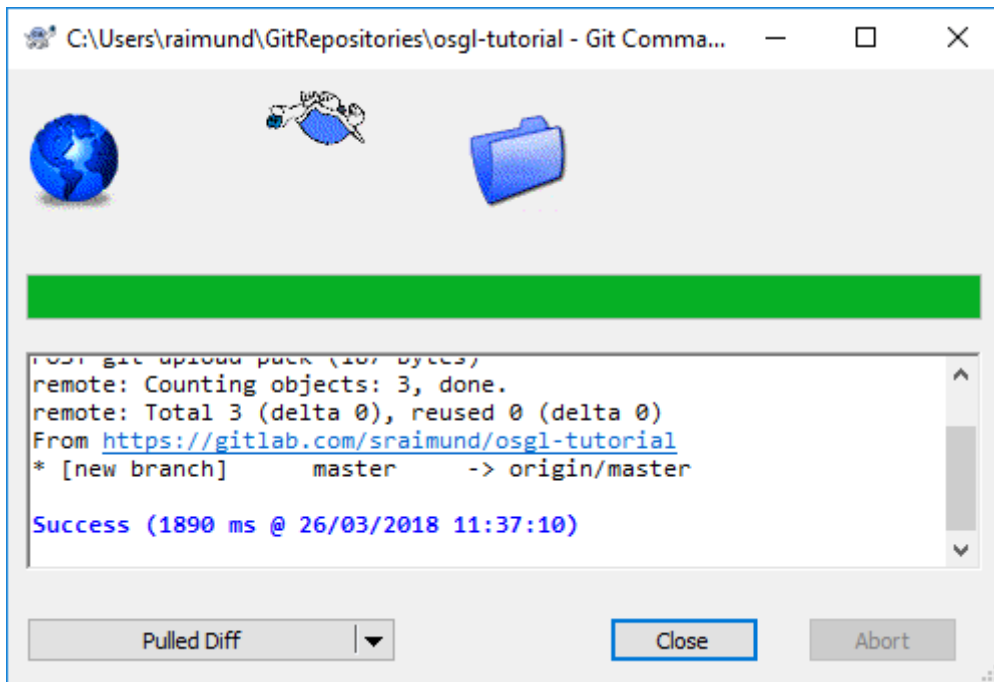## 4.2 Upload a file to the GitLab repository via TortoiseGit

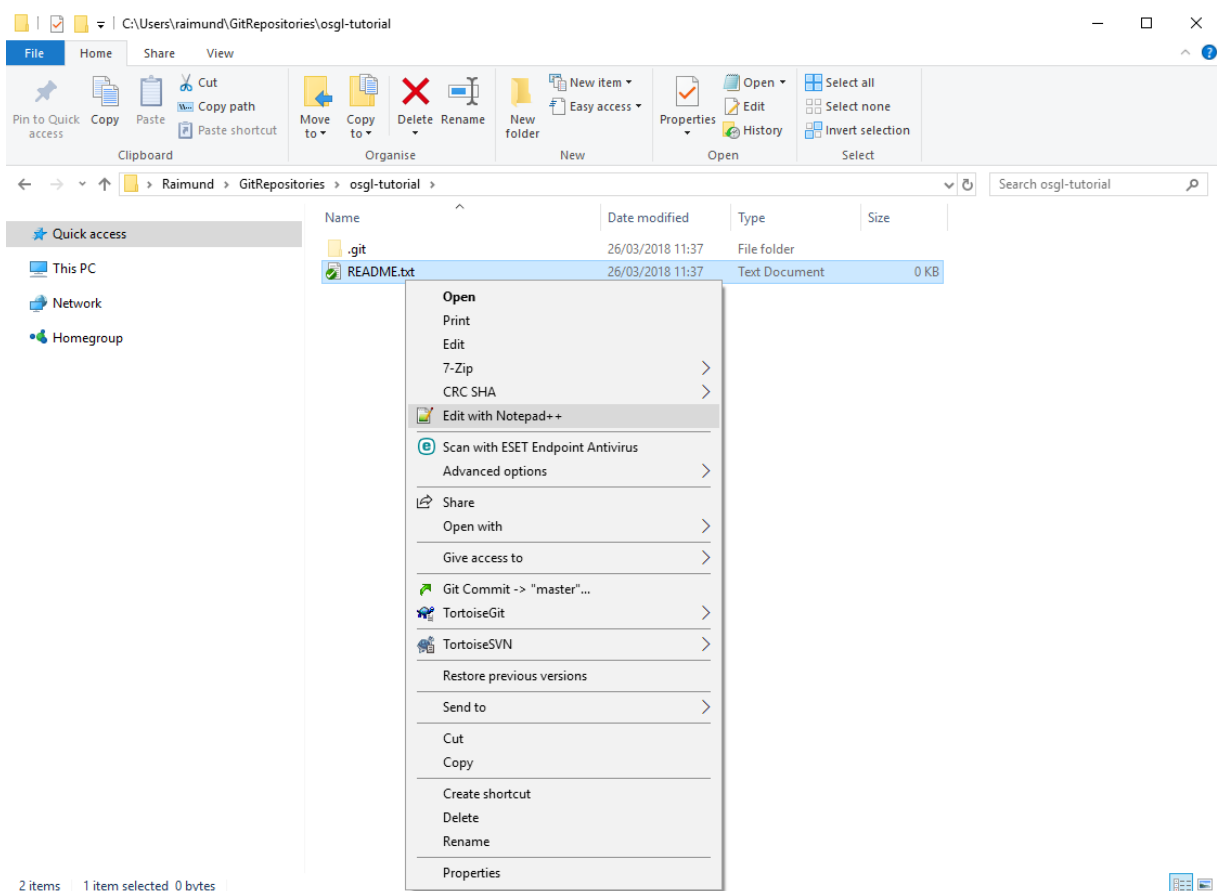a\ Right mouse click on the folder and select "TortoiseGit > Pull…" to receive the latest changes:
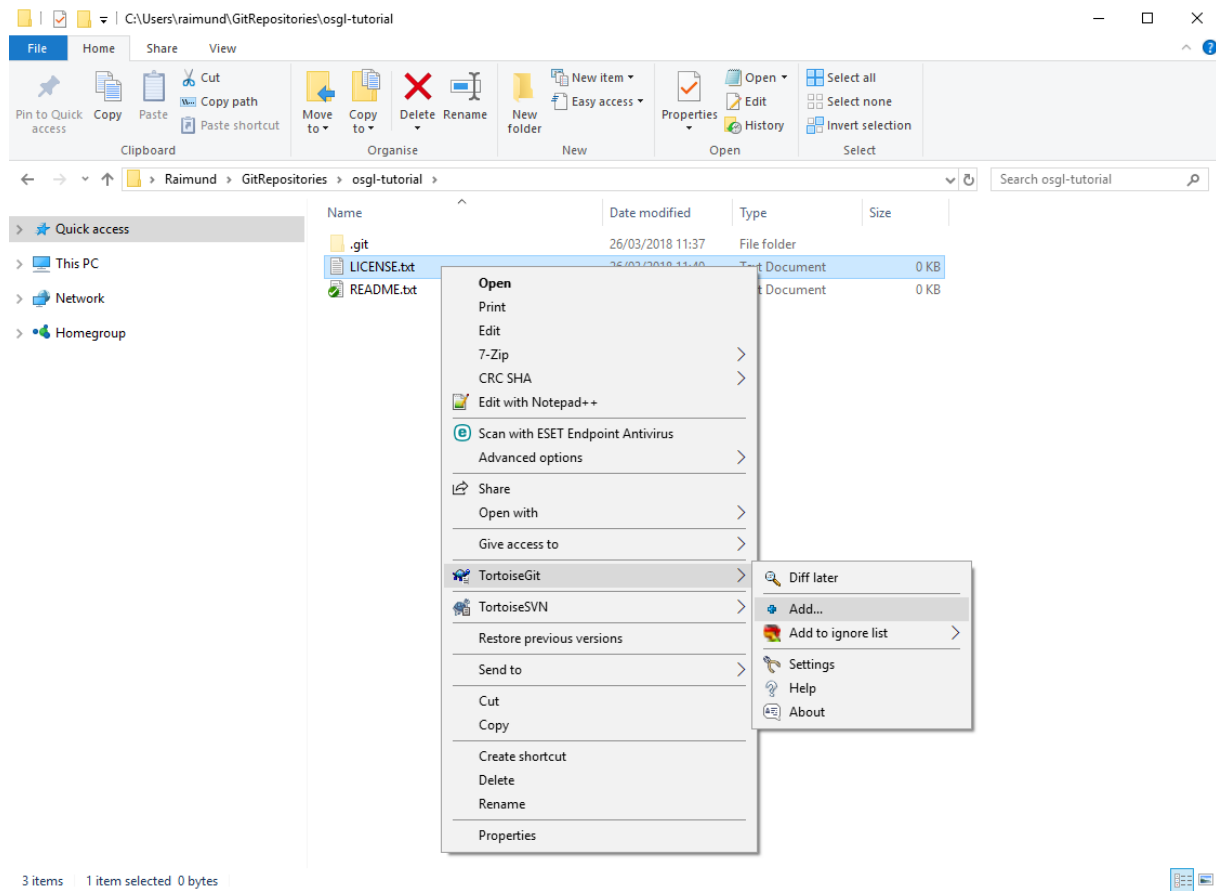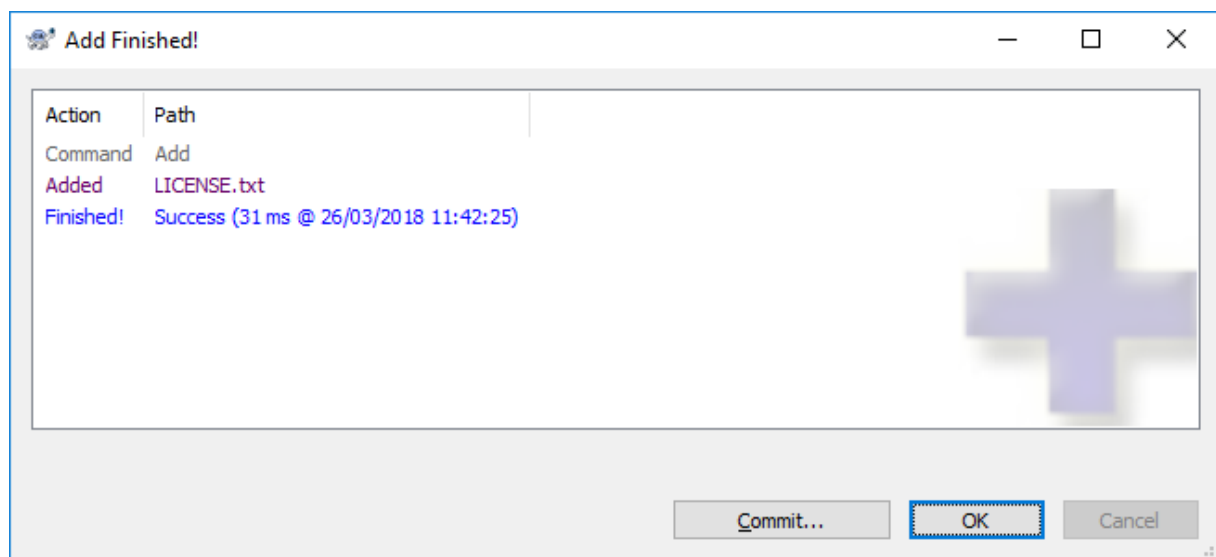
b\ Press "OK":

c\ Press "Close":

d\ Enter the folder (here: osgl-tutorial) and right mouse click on the "README.txt" file and select "Edit with Notepad++" in the context menu:
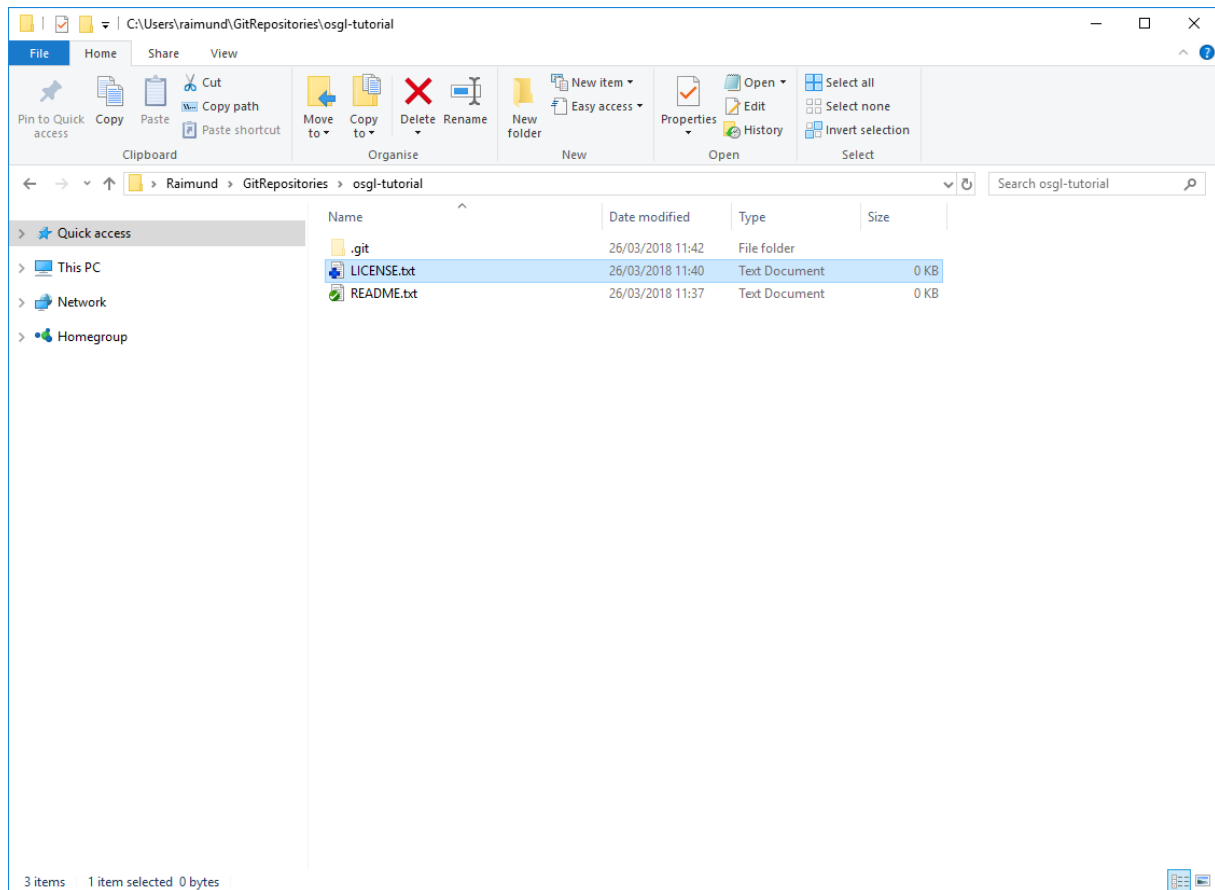
❖ Hint: If you create a new file in your Git folder, you first have to add it to the repository by selecting "TortoiseGit > Add…":
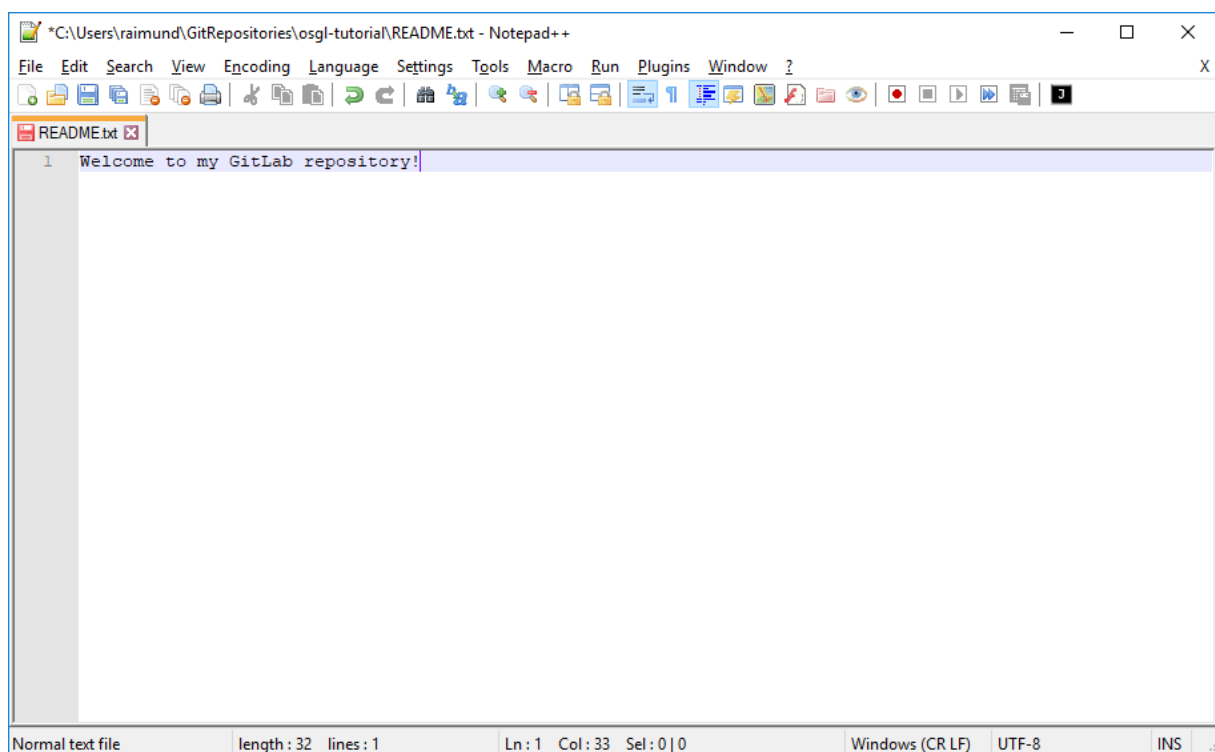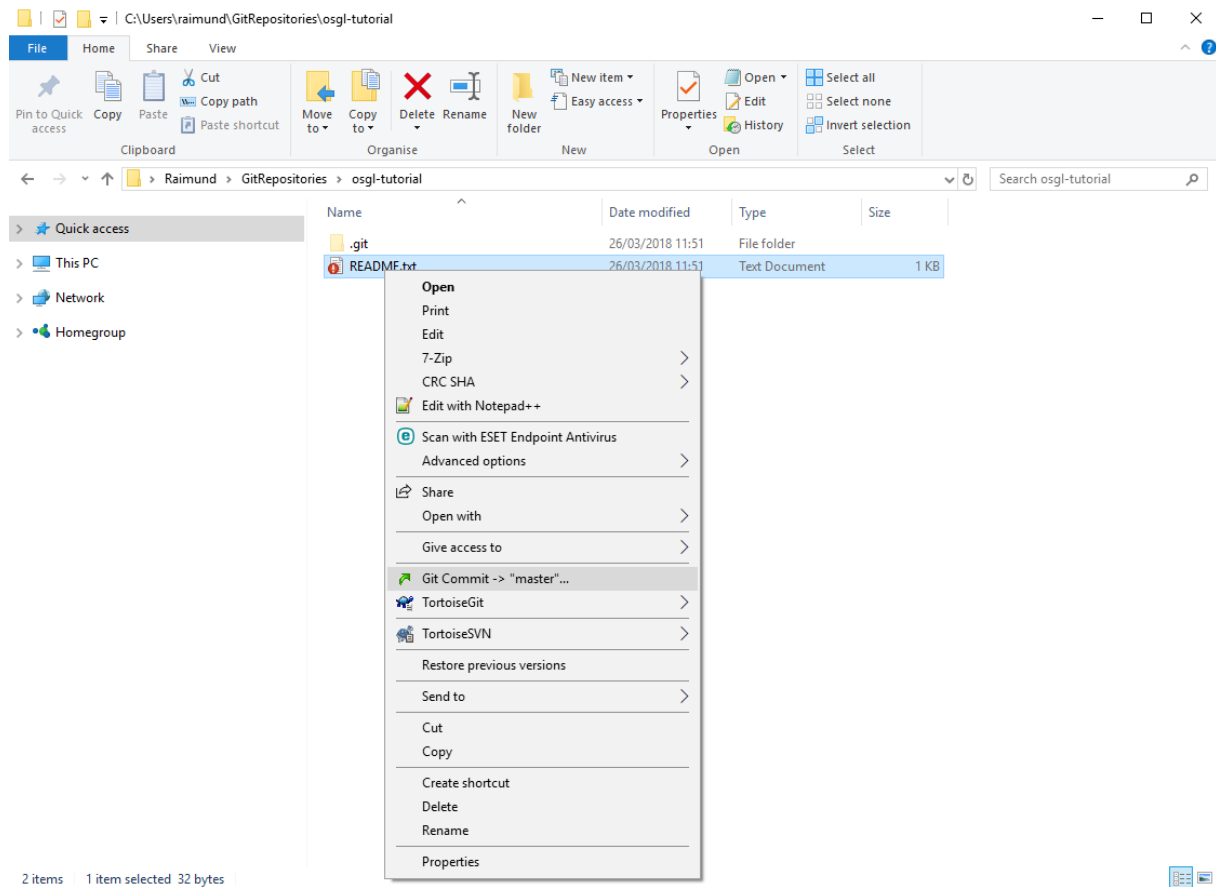

❖ Press "OK":

❖ 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.
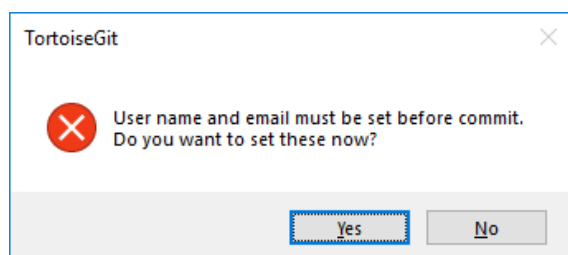
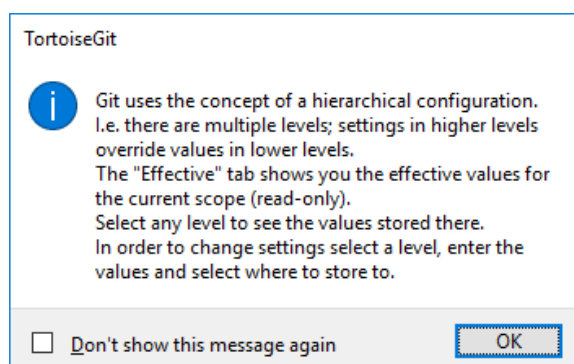c\ Change the contents of the "README.txt" file:

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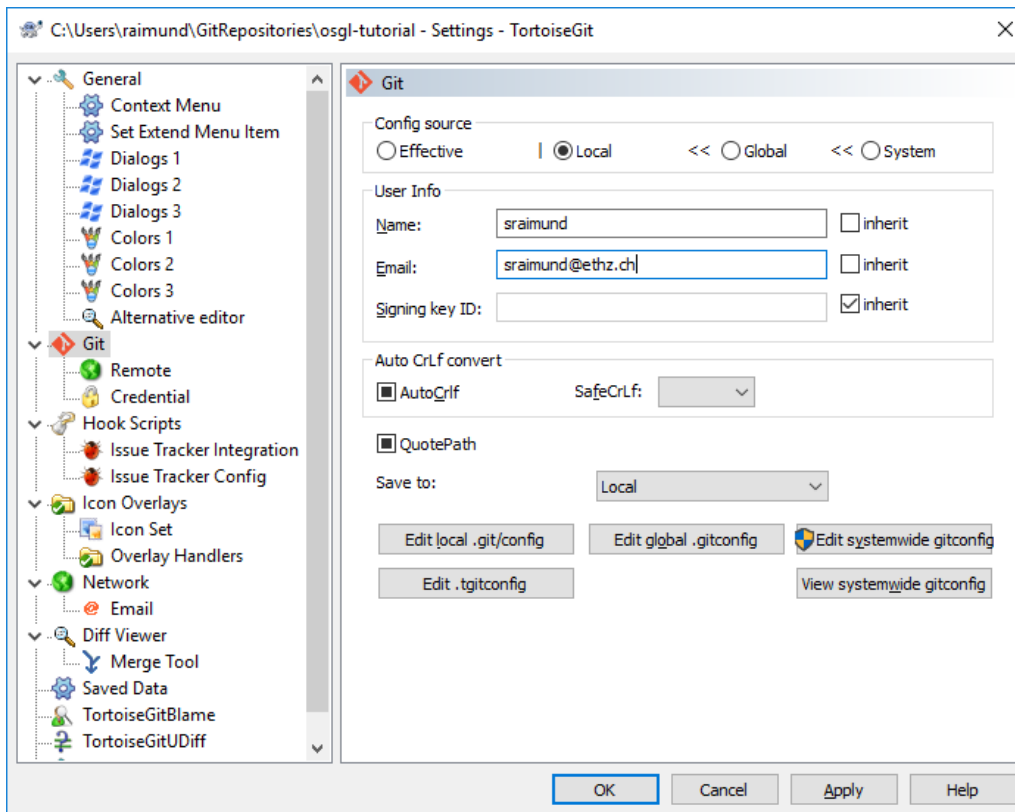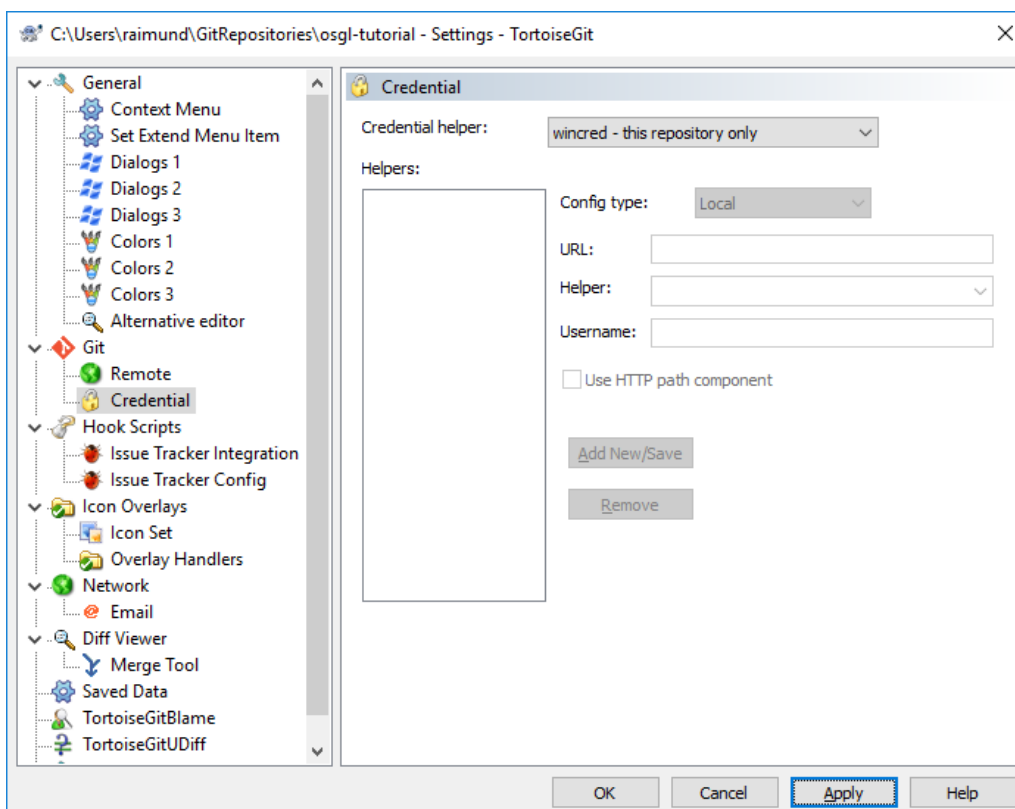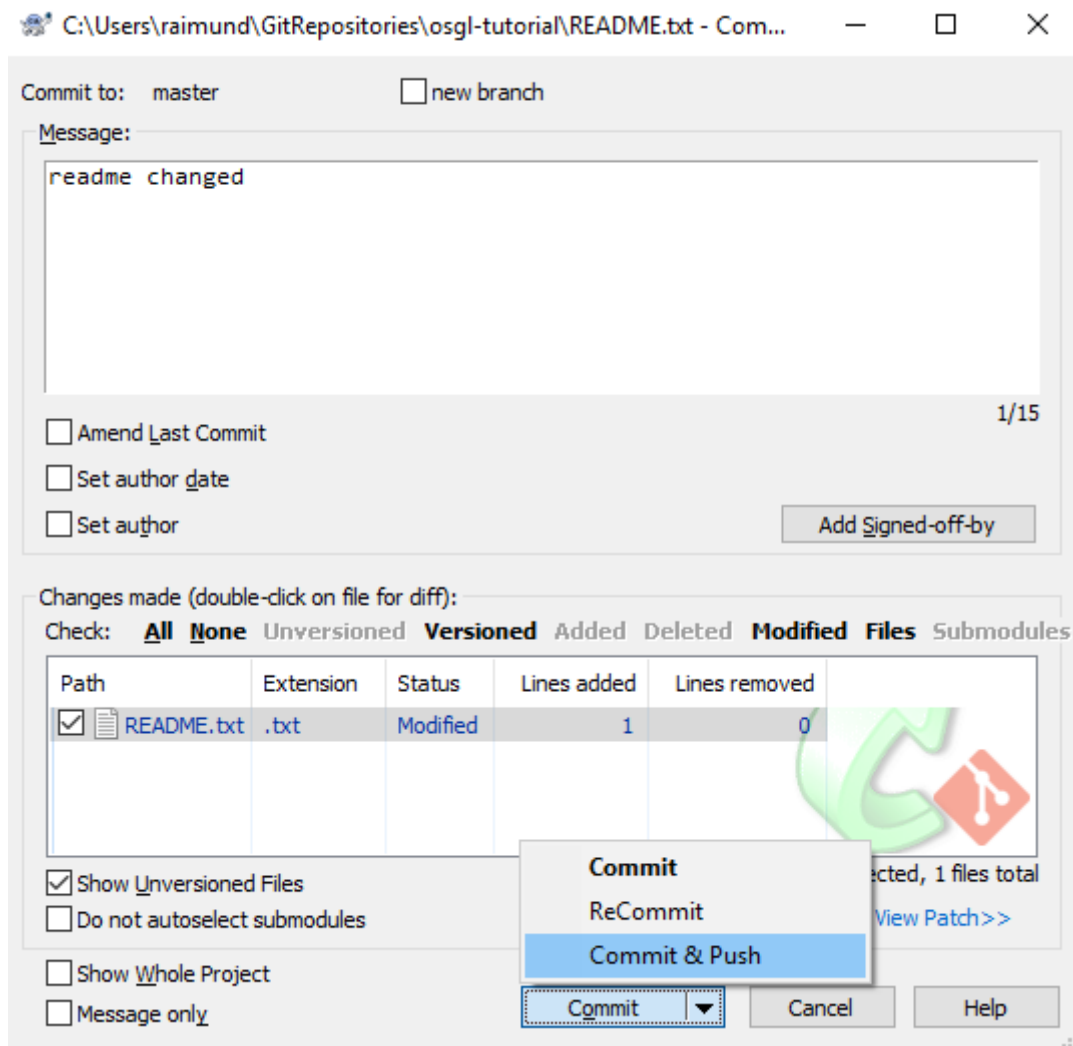

e\ Press "Yes":

f\ Press "OK":

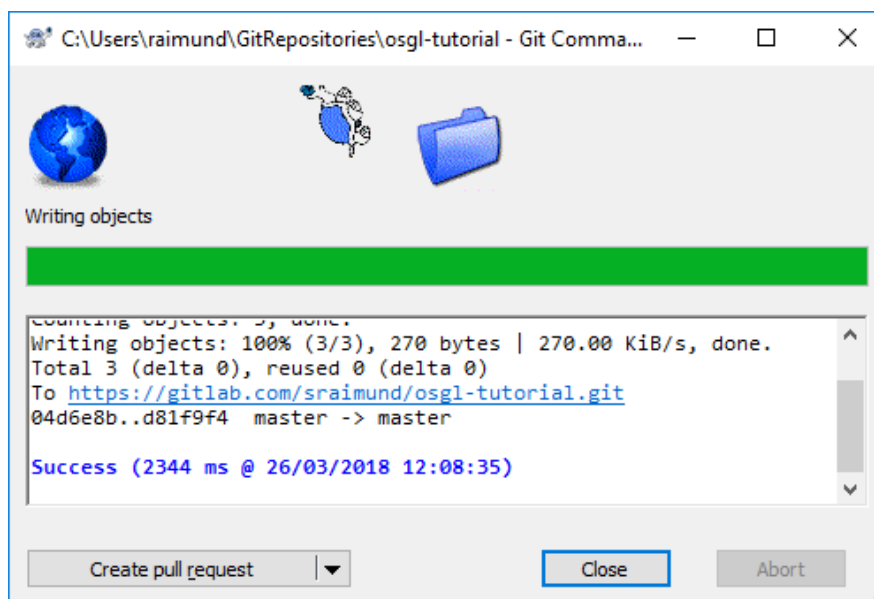g\ Enter your GitLab username and email address (choose Local as "Config source" and uncheck inherit next to "Name" and "Email"):

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):
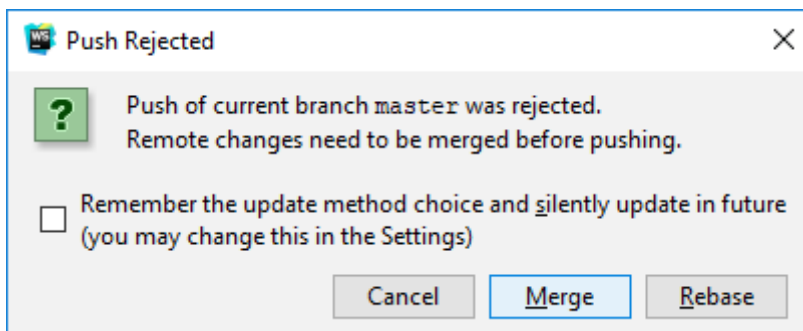
5. Handle a merge conflict

5.1 Handle a merge conflict via WebStorm

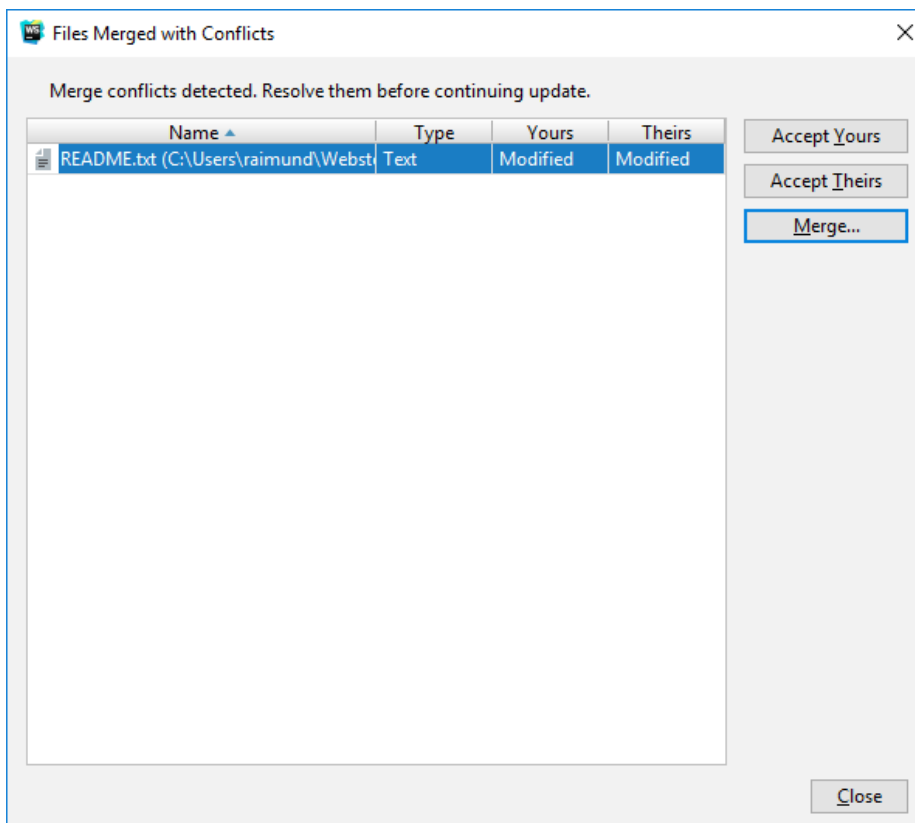a\ Do not pull the latest changes from your repository and change the contents of your file:
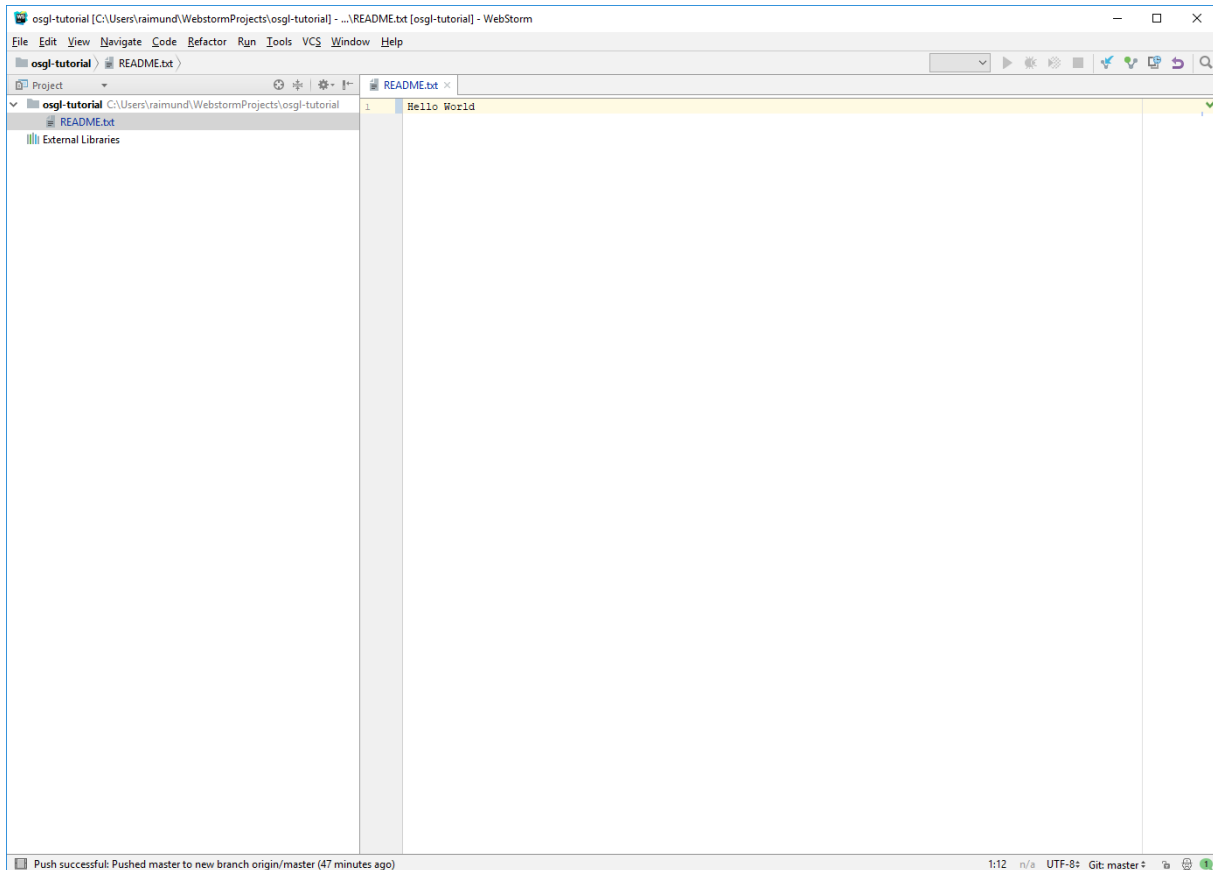
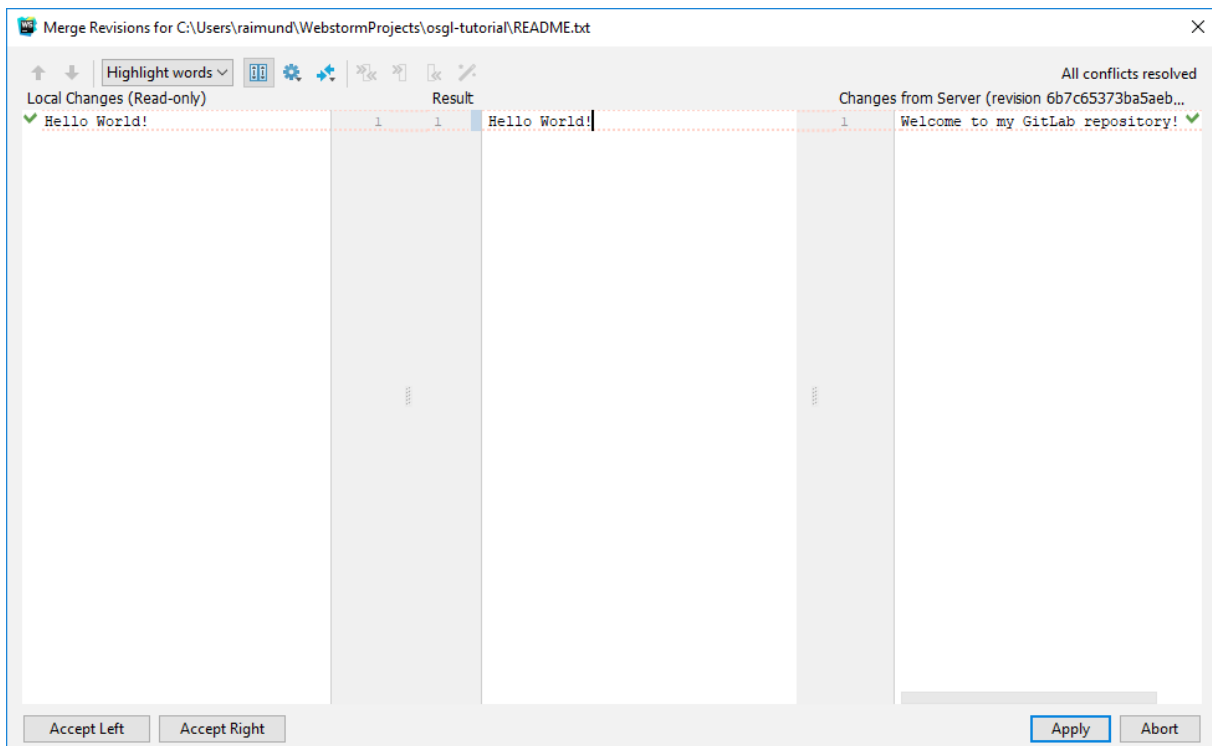b\ Save the file (Ctrl + S), and commit and push it to your repository (see chapter 4.1)
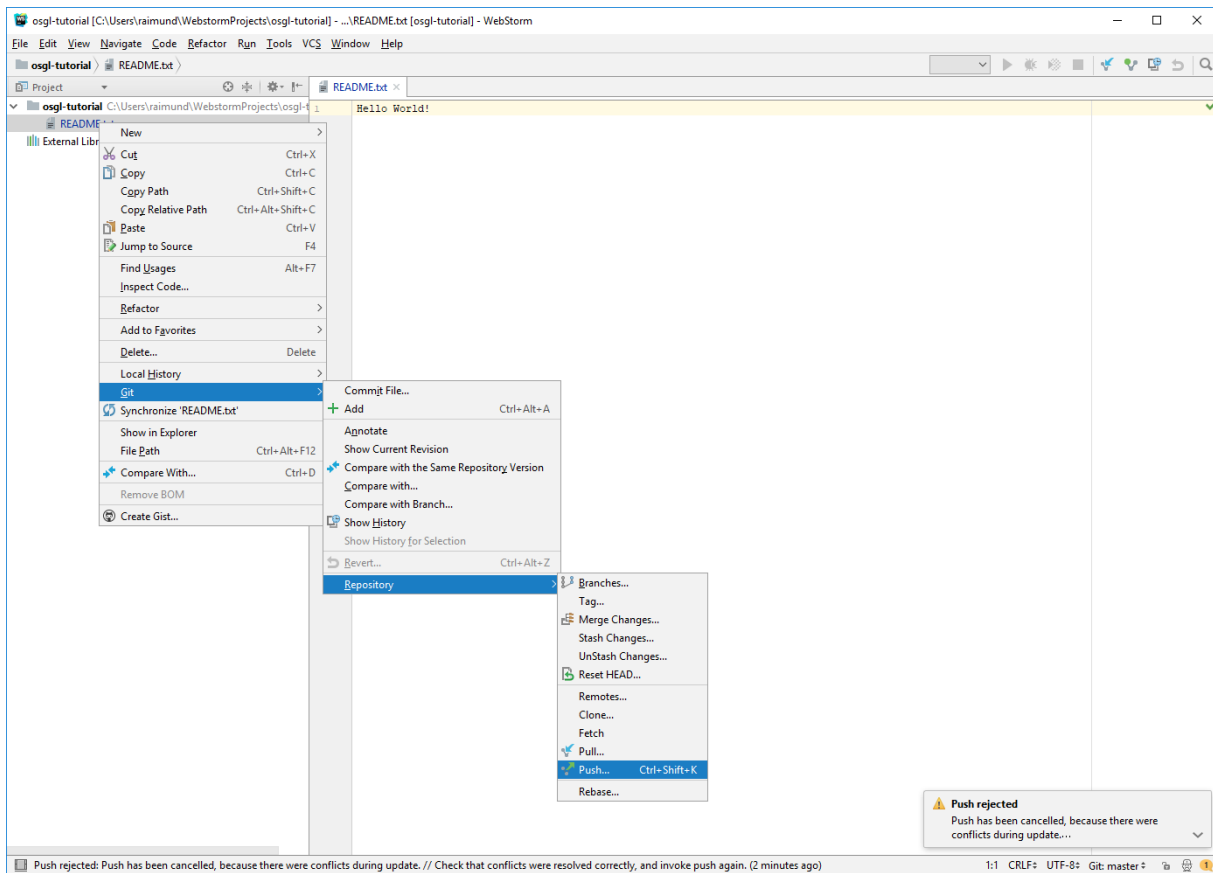
c\ Press "Merge" when you receive this message:

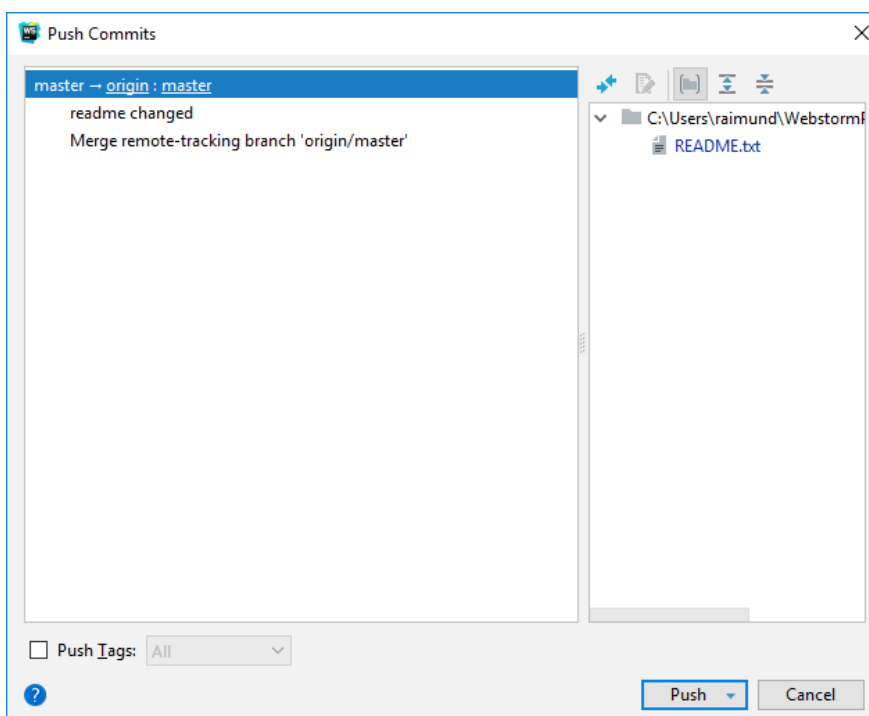d\ Press on the "Merge…" button to solve the merge conflict:

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):

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:
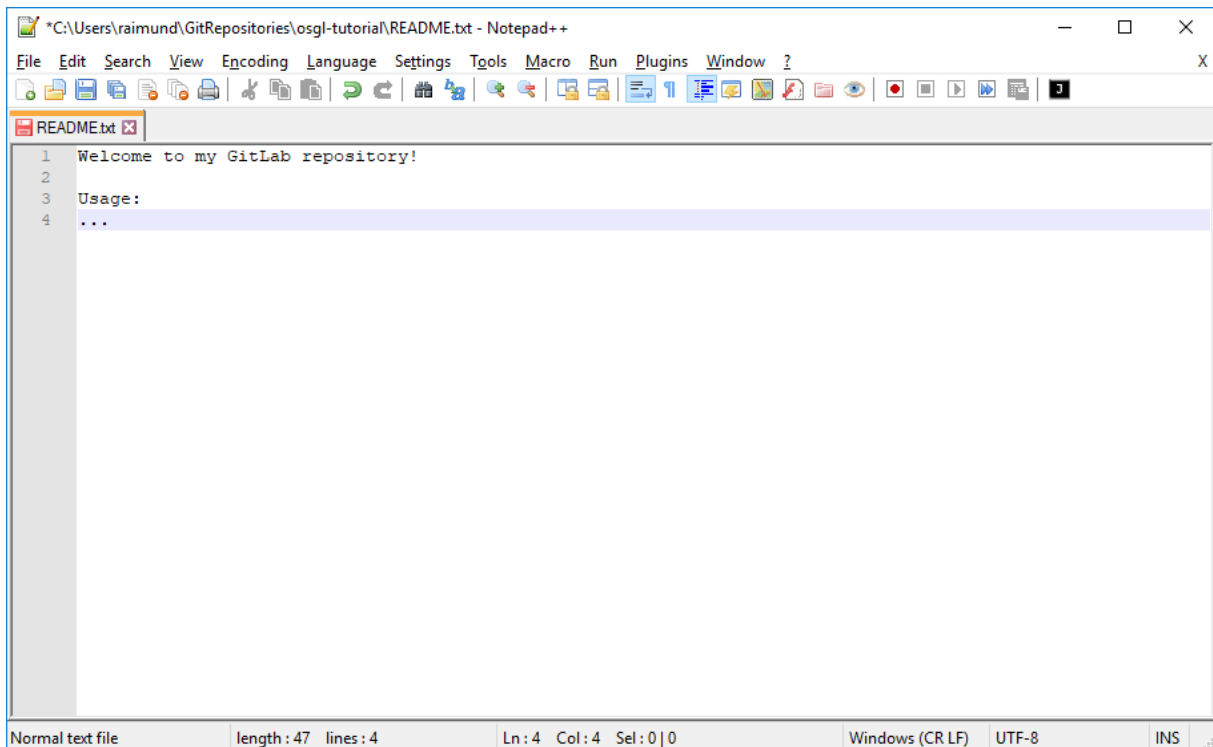
b\ Commit and push the file to the repository (see chapter 4.2)

c\ Press "Pull" when you receive this message:
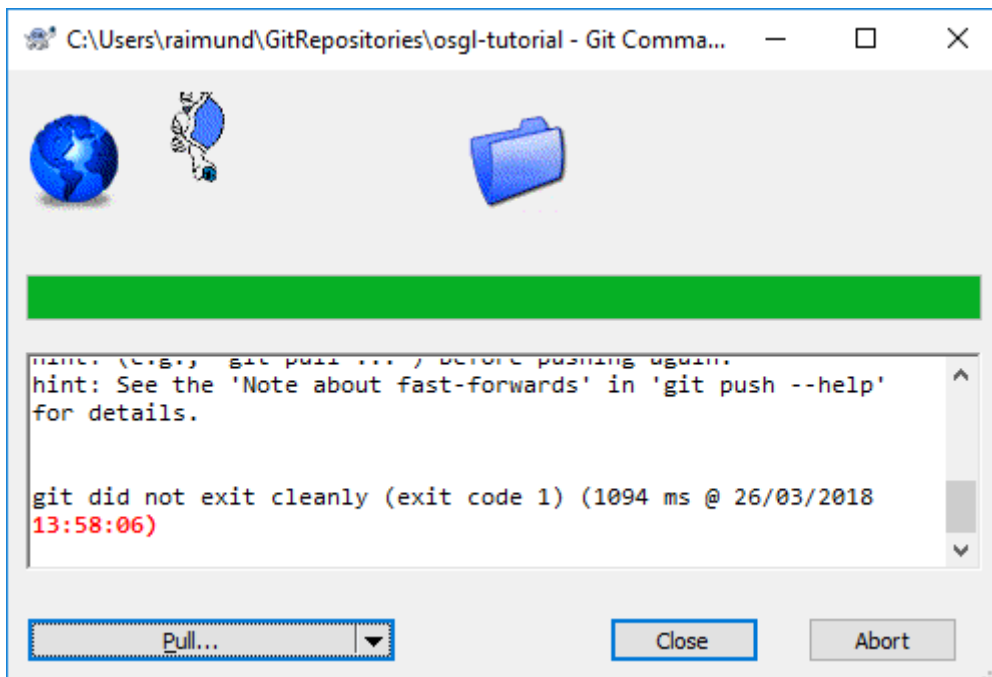
d\ Press "OK":
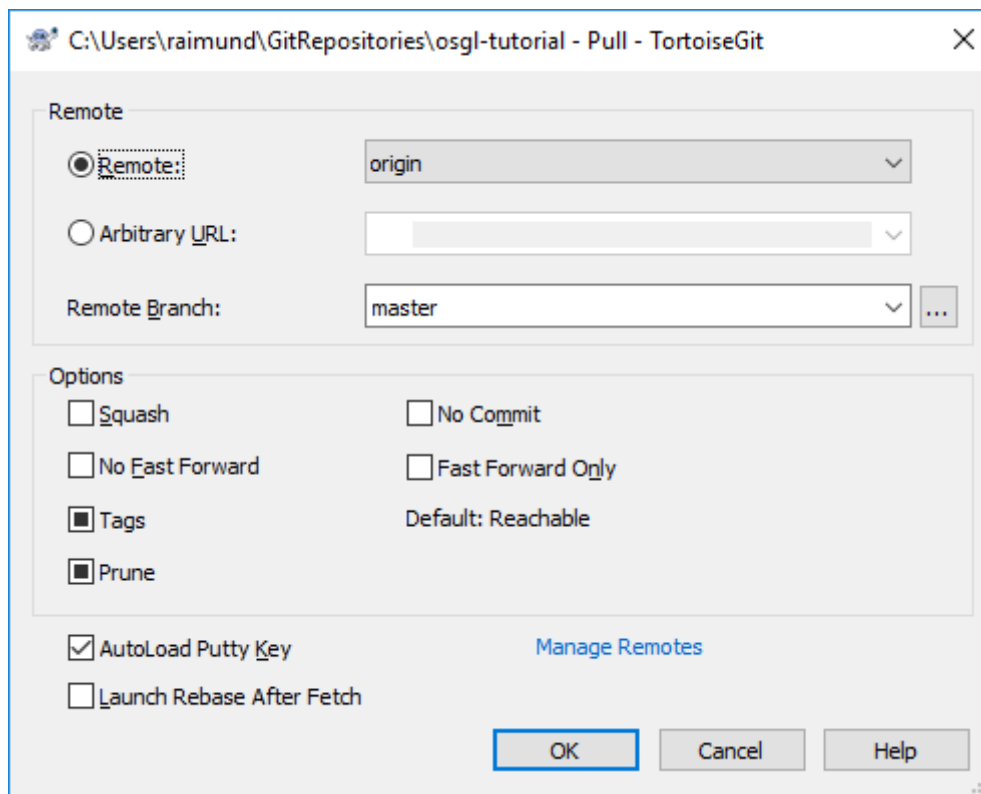
e\ Press "OK":
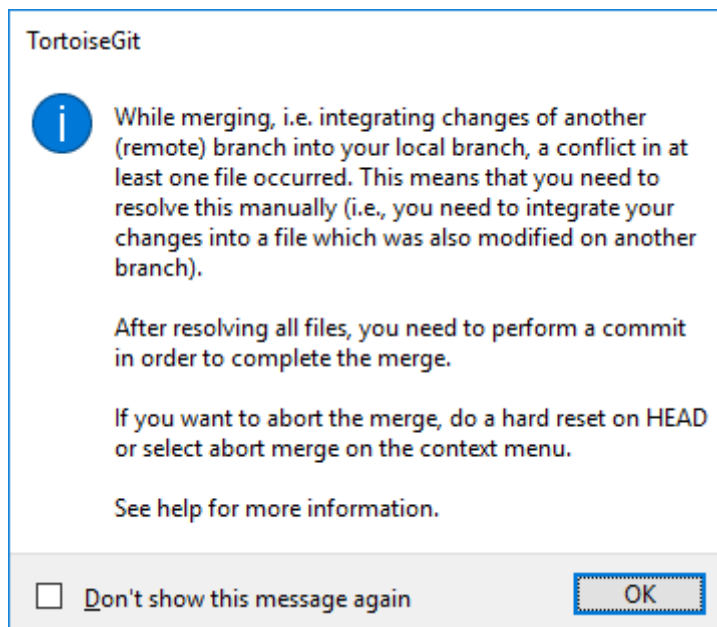
f\ Press "Resolve":
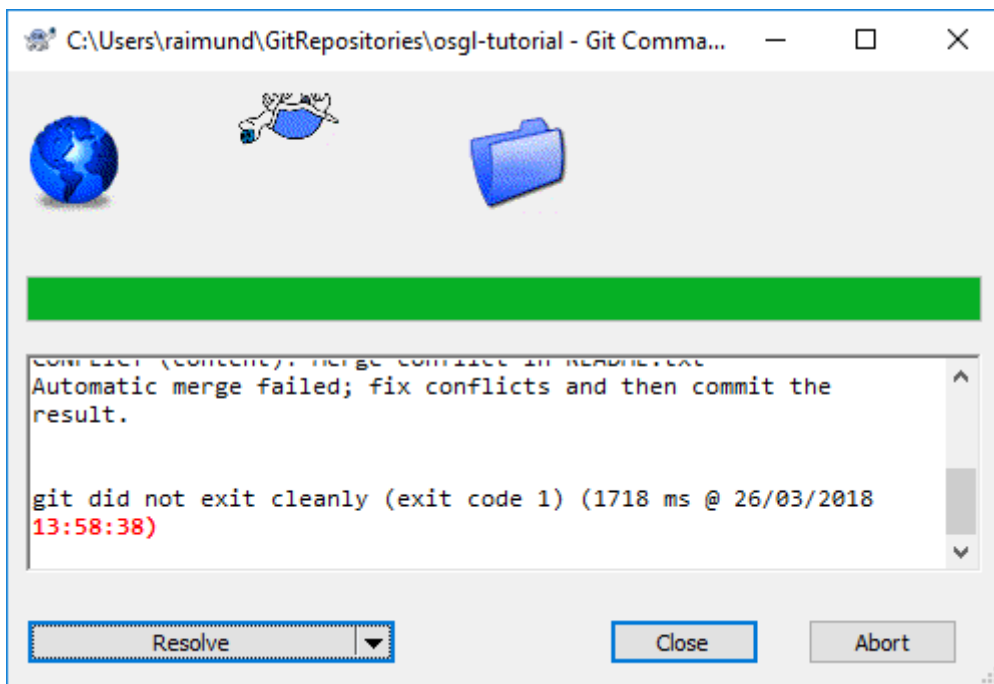
g\ Double left mouse click on the file to solve the merge conflict:
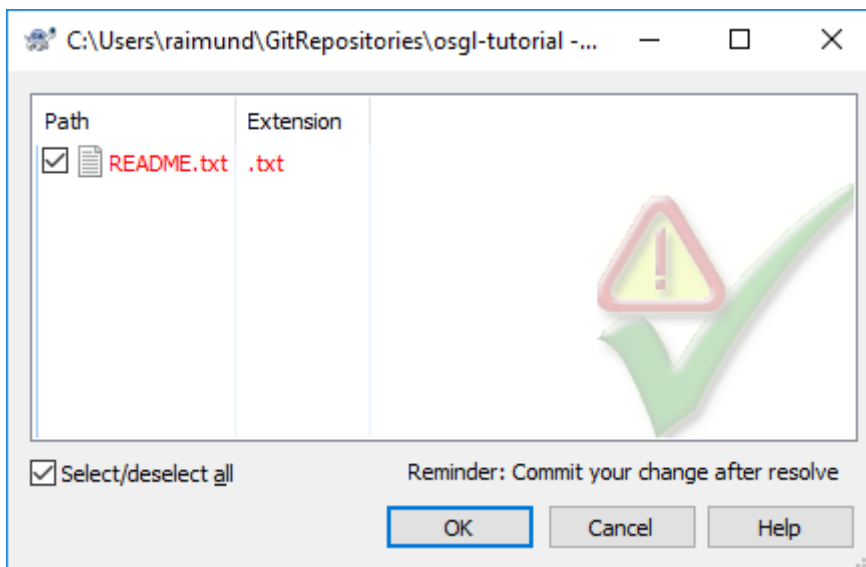
h\ Alternatively press "Cancel" and right mouse click on the conflicted file and select "TortoiseGit > Edit conflicts":
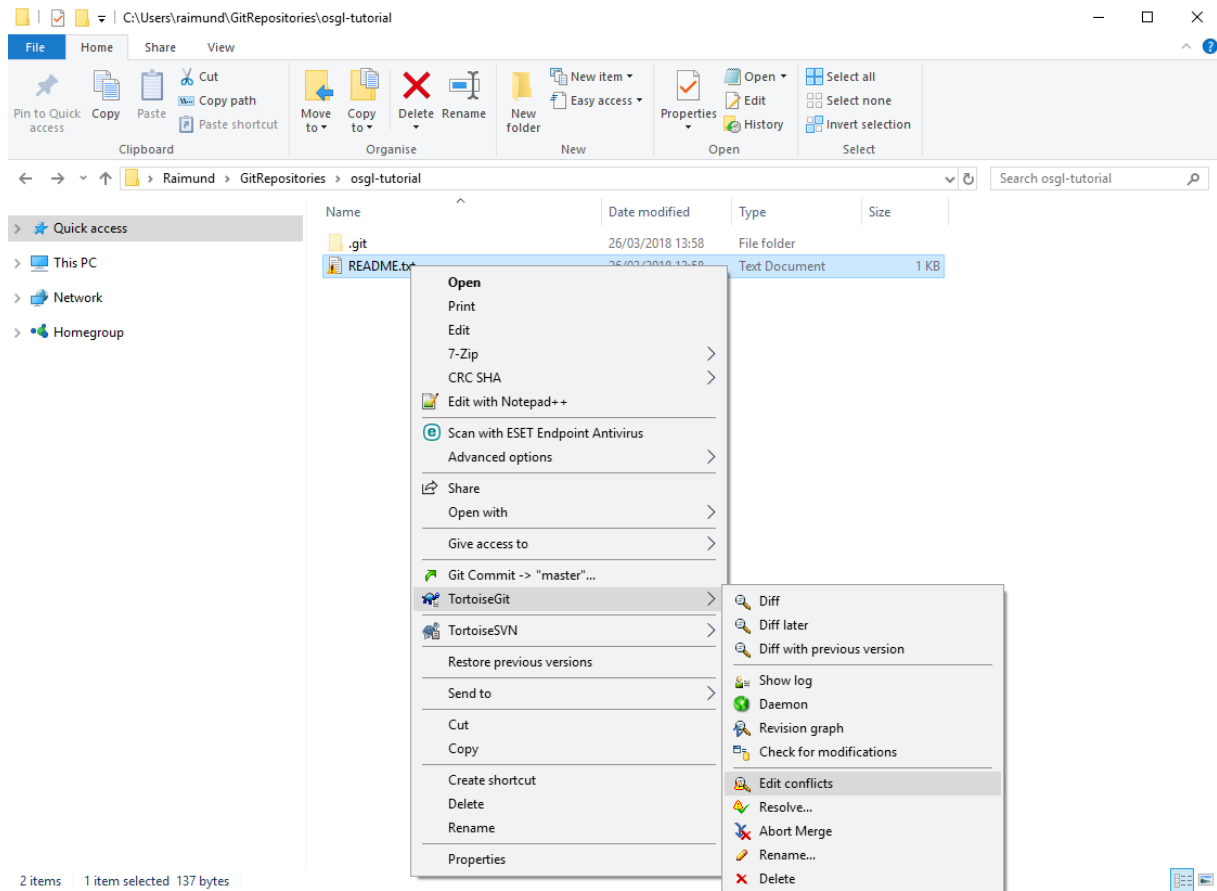
i\ Right mouse click on the line which you want to keep and select "Use this text block":
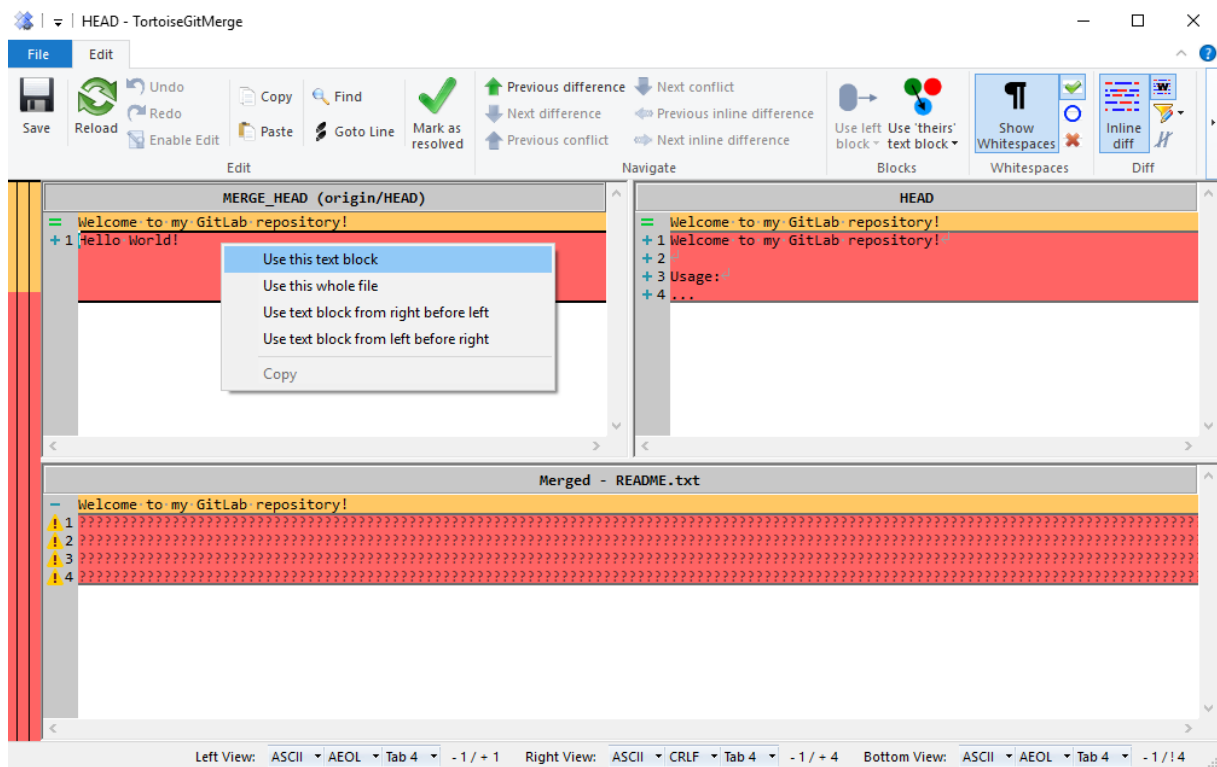
j\ Press "Save":
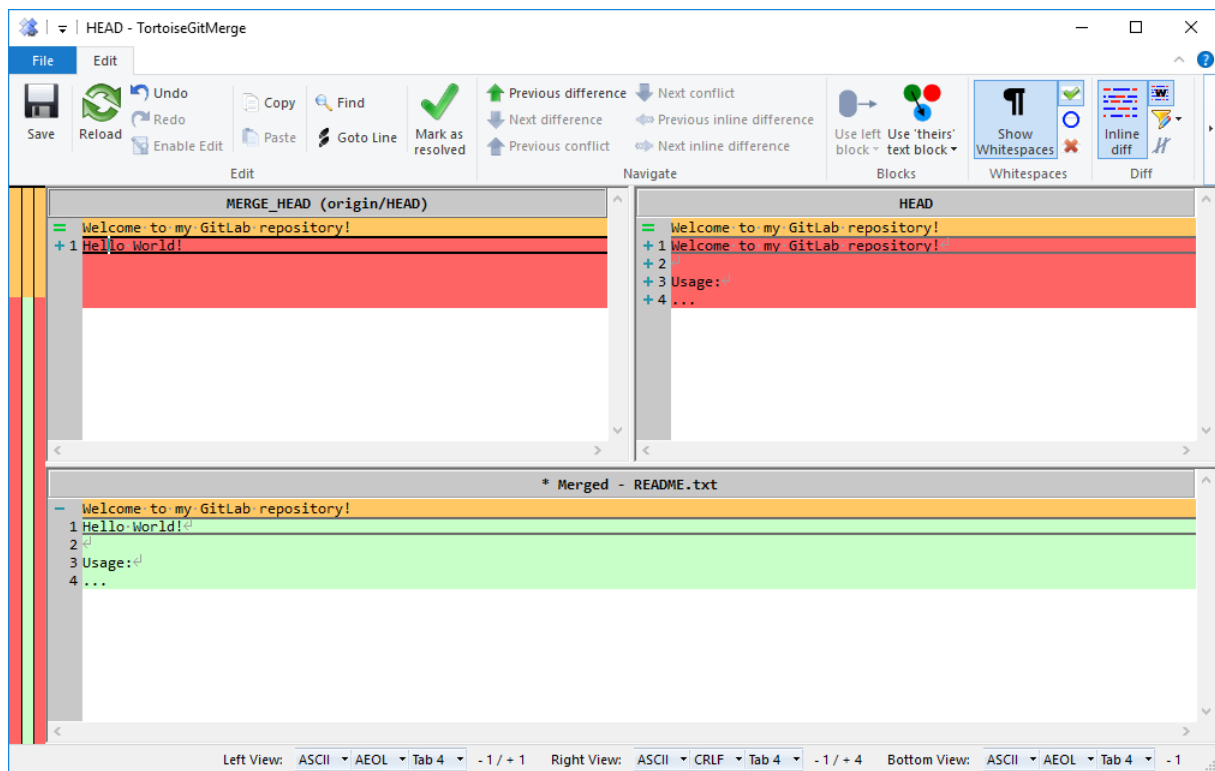
k\ Select "Mark as resolved":

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):

Raimund > osgl-tutorial > **Details**

O

osgl-tutorial 🔒

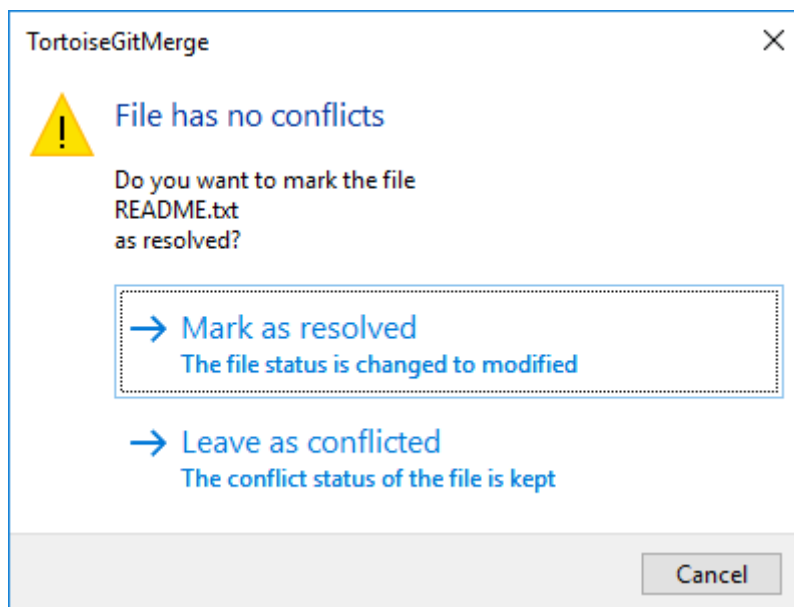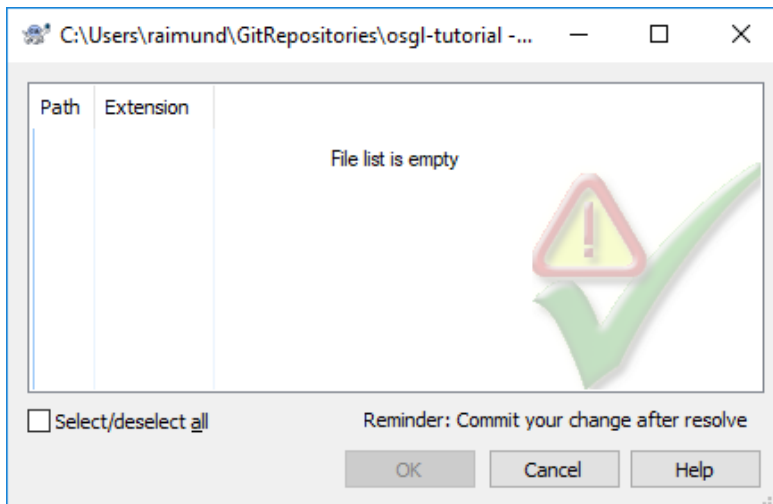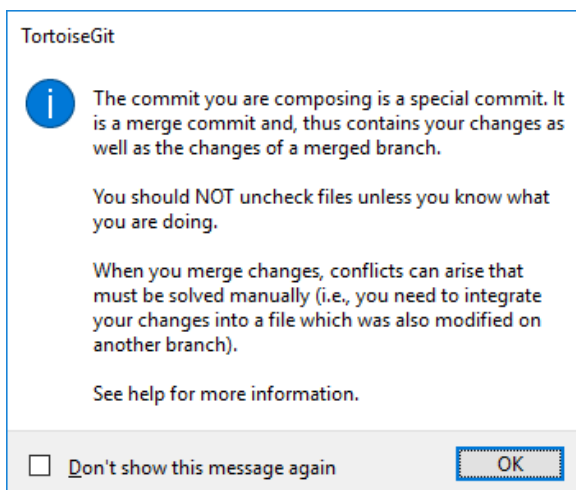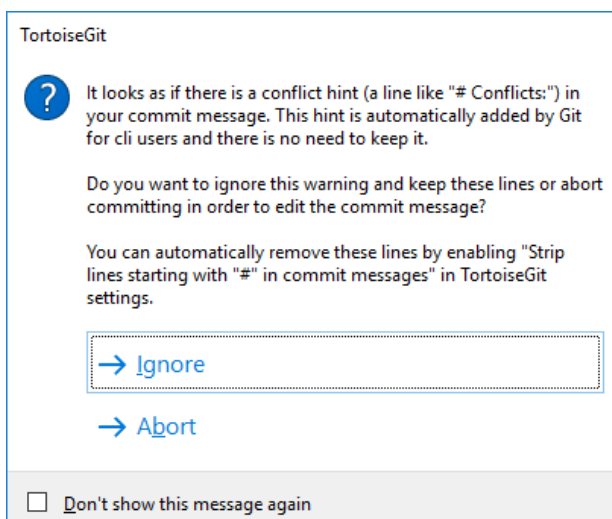☆ Star   0   ⑂ Fork   0   HTTPS ▾ https://gitlab.com/sraimund/osg   📋   ⟳ ▾   + ▾   🔔 Global ▾

Files (51 KB)   Commits (17)   Branch (1)   Tags (0)   Readme

[Add Changelog]   [Add License]   [Add Contribution guide]   [Add Kubernetes cluster]   [Set up CI/CD]

Auto DevOps (Beta)   ✖

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

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[Enable in settings]

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

Merge branch 'master' of https://gitlab.com/sraimund/osgl-tutorial …   **1fbb1cd3** 📋
Raimund authored less than a minute ago

Name	Last commit	Last update
📄 README.txt	Merge branch 'master' of https://gitlab.com/sraimund/osgl...	less than a minute ago

📄 **README.txt**

```
Hello World!

Usage:
...
```

Raimund Schnürer, 26.03.2018