

# SVN Tutorial

1. Download TortoiseSVN from <https://tortoisesvn.net/downloads.html>
  - a. Install TortoiseSVN, following the instructions
2. Make a new folder "SVN Tutorial"
  - a. Navigate into the "SVN Tutorial" folder

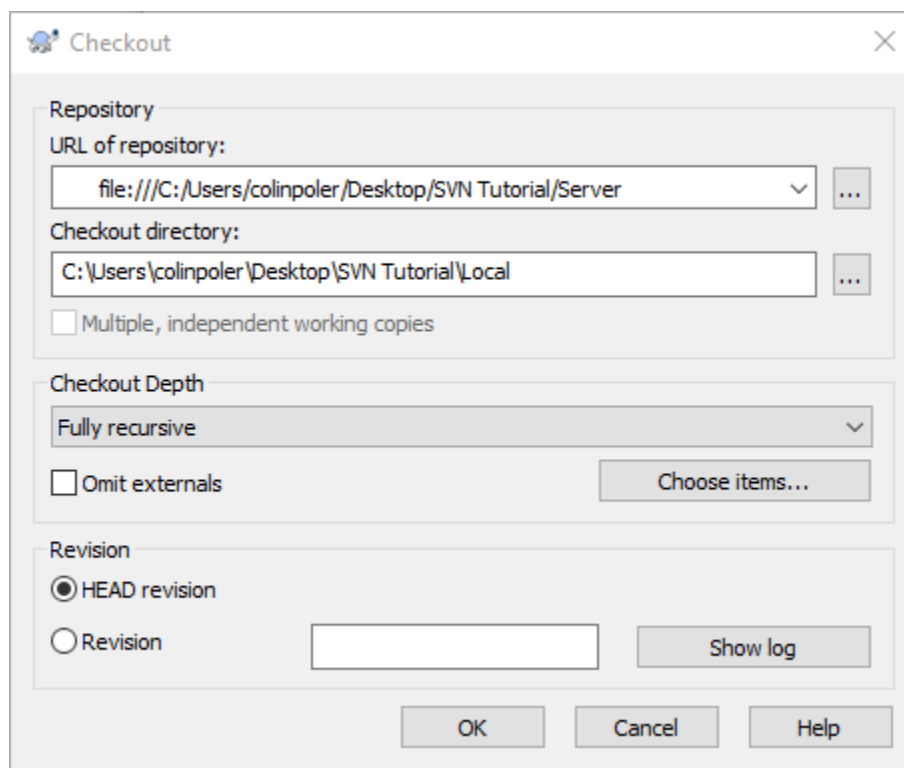
## Setting up the server

1. Make a new folder "Server"
  - a. Navigate into the "Server" folder
2. Right click blank space > TortoiseSVN > Create Repository Here
  - a. Wait for window to pop up, click OK
3. Navigate back to the "SVN Tutorial" folder

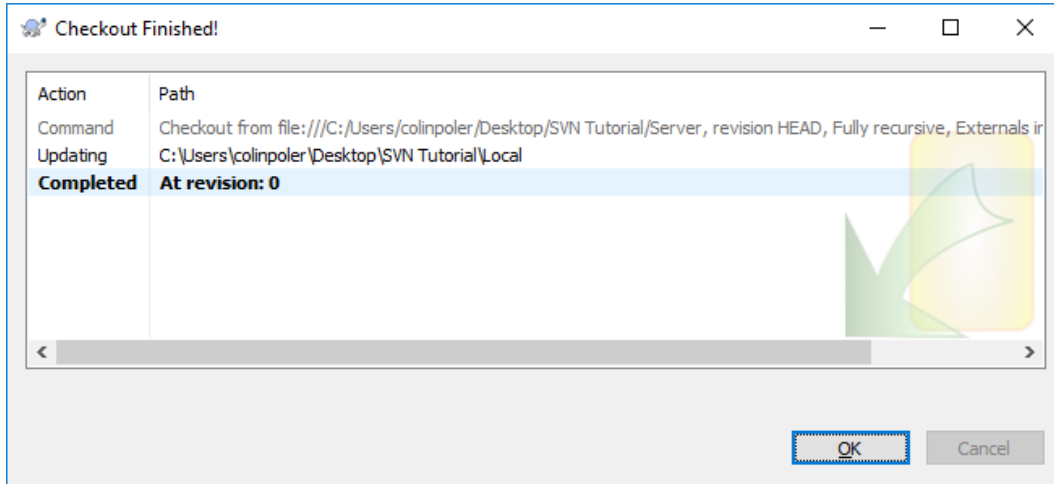
The "SVN Tutorial" repository we'll set up is **only** on your computer. There's **no way to mess up** the team repository by playing with the "SVN Tutorial" repository. You can and should experiment with this tutorial repository!  
Furthermore, if you're ever afraid of messing up the team repository, you can always test out the action on the tutorial repository to see what it does!

## Setting up the local copy

1. Make a new folder "Local"
  - a. Navigate into the "Local" folder
2. Right click blank space > SVN Checkout...



- a. Under *URL of repository*, type “file:///C:/Users/USERNAME/Desktop/SVN Tutorial/Server”, replacing USERNAME with your username on your computer
- b. Under *Checkout directory*, type “C:\Users\colinpoler\Desktop\SVN Tutorial\Local”
- c. Make sure all the other settings match the above image, and click OK

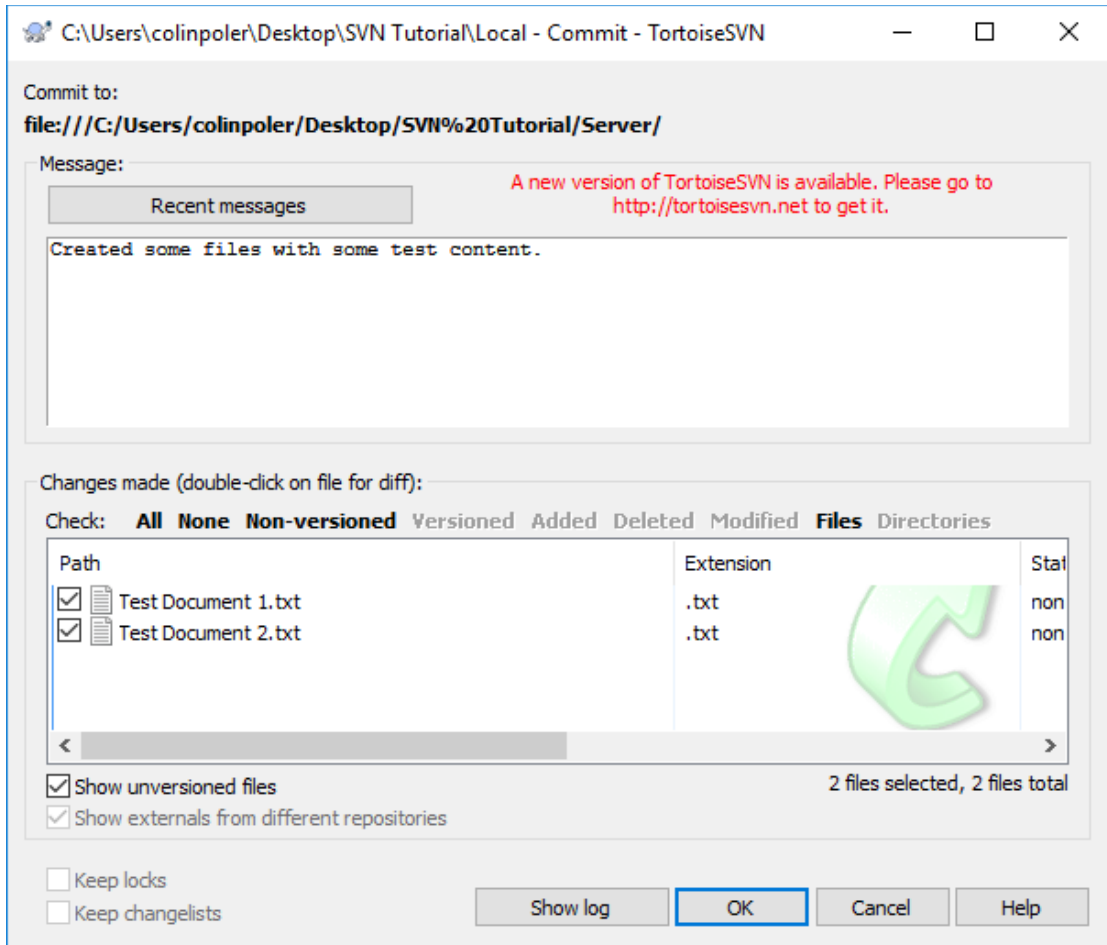


- d. Click OK for the above window

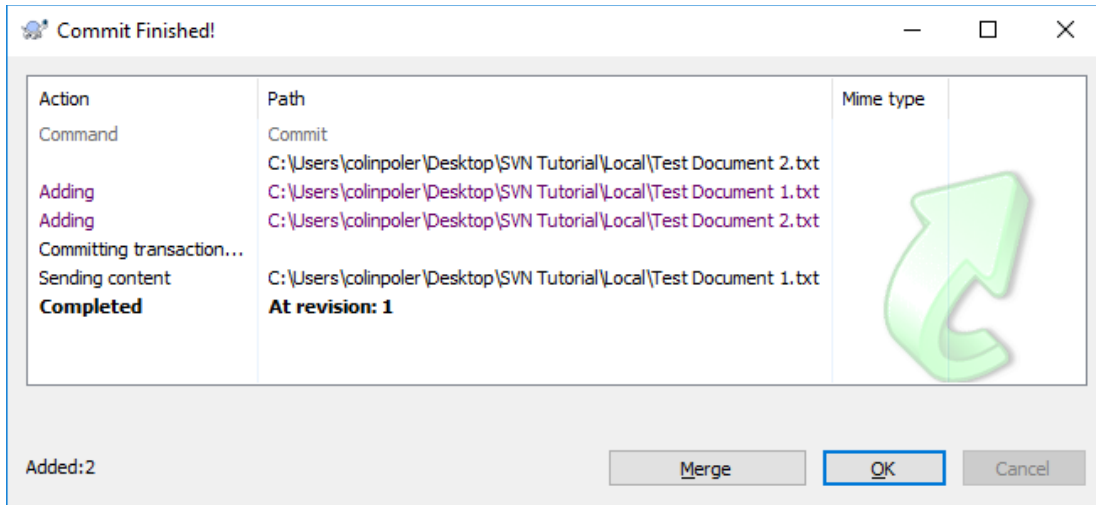
## Committing changes

SVN works by keeping a master version of all the files on the server, and letting each user work on an independent local copy. When you are satisfied with the changes you've made, you'll want to change the master version on the server. This is called "committing".

1. Right click blank space > New > Text Document
  - a. Name the file "Test Document 1.txt"
  - b. Open the file
  - c. Type something, e.g. "This is my first change"
  - d. Save and close the file
2. Right click blank space > New > Text Document
  - a. Name the file "Test Document 2.txt"
  - b. Open the file
  - c. Type something, e.g. "Rocket Team is pretty cool"
  - d. Save and close the file
3. Right click blank space > SVN Commit...



- a. Type in a message describing your changes.  
This message describes to other users what you did, so they can search for it later. For instance, if you change a tube length, you should say so, so that we can easily figure out when the tube length changed.
- b. Check off the boxes next to the files you want to commit.  
This controls which changes are sent to the server. Say you've made lots of changes, but only want to send a few of them to the server (e.g. you've changed the nosecone, and also the fin can, and you're only ready with the nosecone). Here, you can select just the files that you want to send to the server (e.g. just send the nosecone files).
- c. Click OK



d. Click OK to the log window above

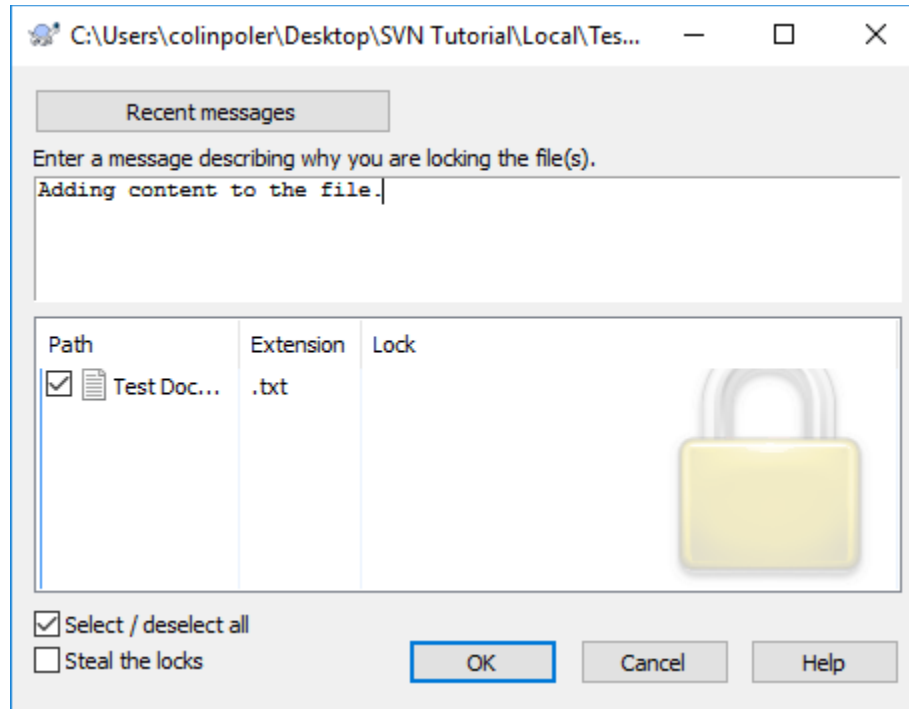
**Challenge:** make more changes to the files, and commit them to the repository.

## Locking files

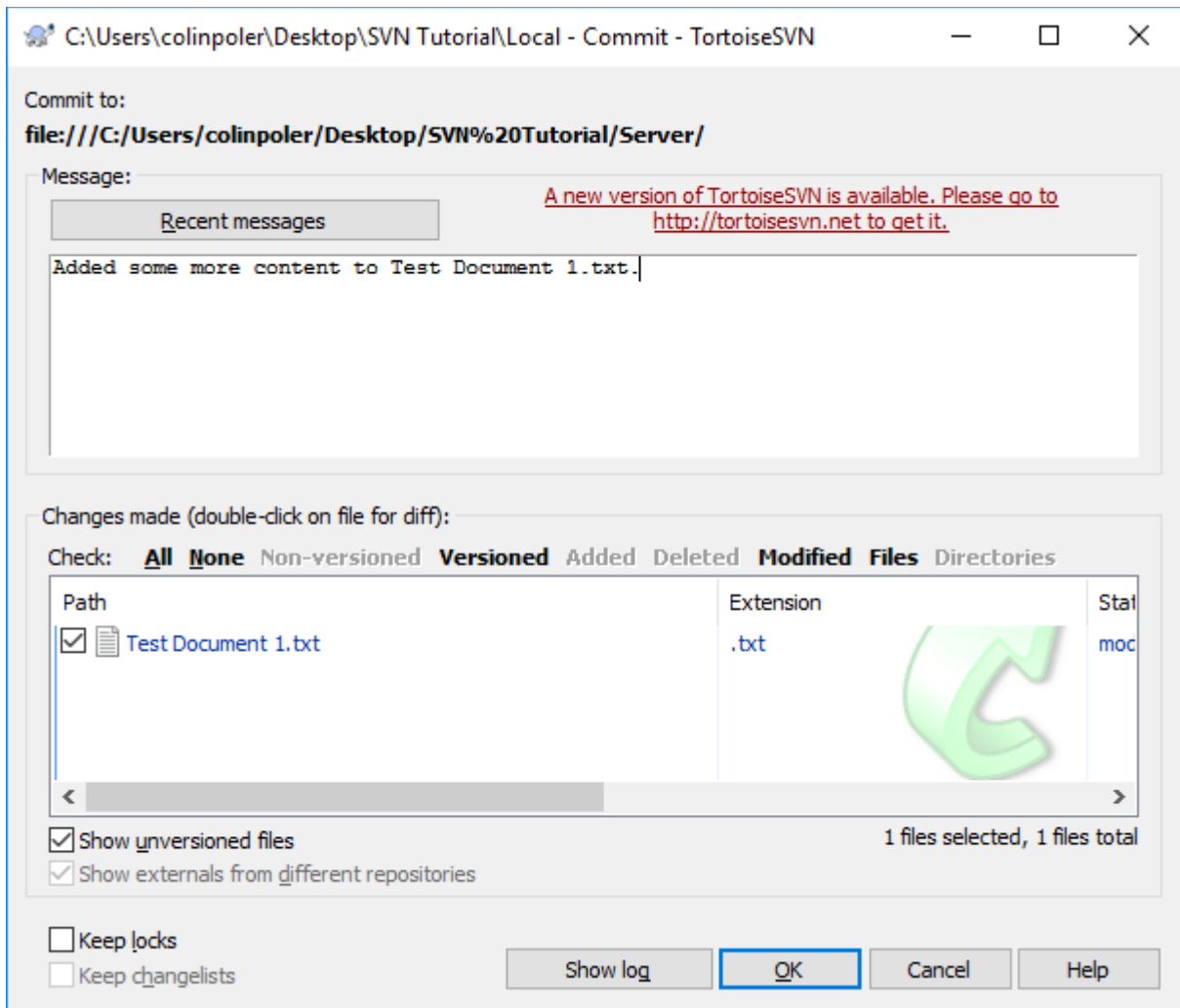
Say Alice busy working on a CAD file, and Bob starts to edit the same file. When Alice is done, she commits her file to the server. When Bob finishes later, he tries to commit the file, but SVN realizes he was working on an old version of the file. Since SVN can't intelligently combine the changes, SVN asks him whether he wants to cancel the commit, or overwrite Alice's changes.

How can we avoid wasting Bob's time making changes that can't be committed? Well, Alice can tell the server she's going to be editing the file in advance, so Bob knows. That's called "locking" the file.

1. Right click "Test Document 1.txt" > TortoiseSVN > Get Lock...



2. Type in a message describing why you have a lock.  
Usually, it's sufficient to say you're editing CAD files.
3. Select all the files you want to lock (in this case, we selected it directly, but if you select a folder, there may be many files).
4. Click OK, and click OK to the log window.
5. Open "Test Document 1.txt"
6. Add some content to the document, and save it.
7. Right click > SVN Commit...



8. Type a message for the commit

9. Select the files you want to commit.

10. Notice the “Keep locks” checkbox, but don’t check it.

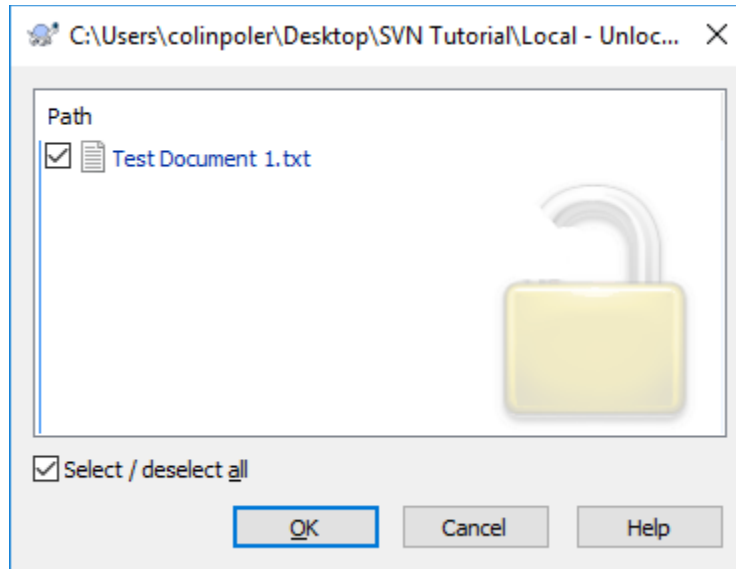
If you leave it unchecked, SVN will release the locks on the files after you commit.

If you check it, SVN will keep the file locked to you.

11. Click cancel. (Actually, we’re going to go release the files)

You might choose to release the files if someone else needs to edit the files urgently, and you’re not done yet. Just be aware that you’ll need to start over with the most recent version.

12. Right click > TortoiseSVN > Release Lock...



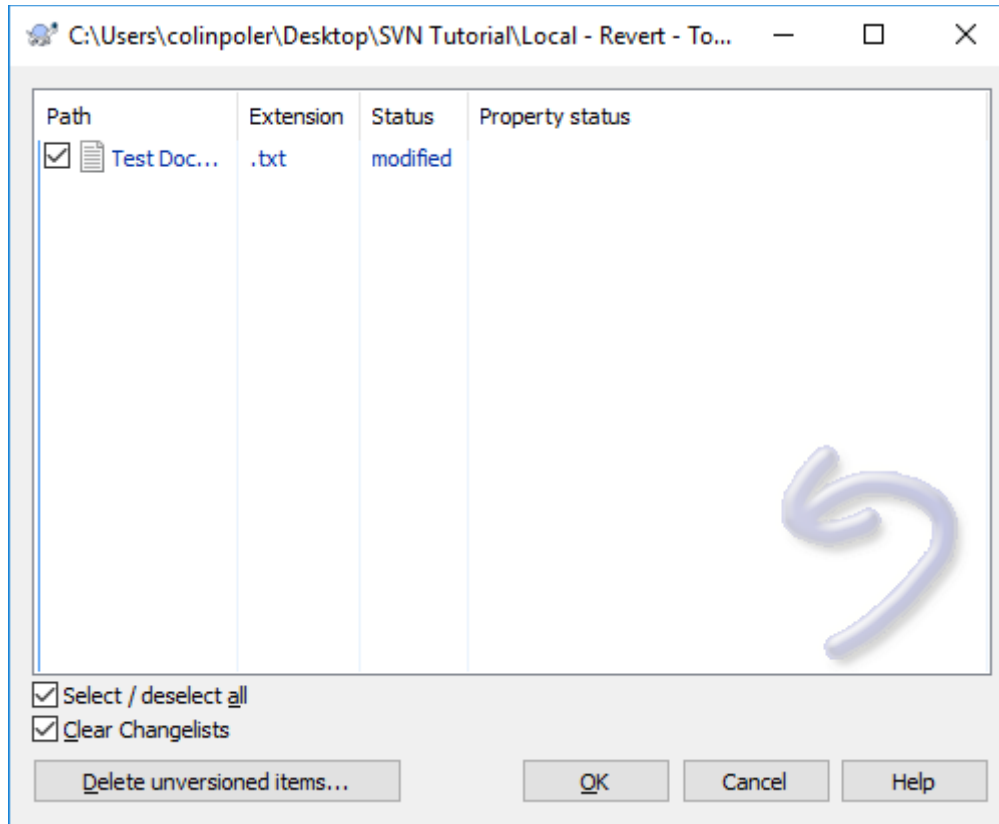
13. Select all the locked files you want to release
14. Click OK, and click OK to the log window.

**Challenge:** get a lock on “Test Document 2.txt”, make a change to it, and commit it to the repository *without* committing “Test Document 1.txt”. *If you commit “Test Document 1.txt”, make another change to it, so that we have a change to experiment with in the next section.*

## Reverting changes

Reverting is useful when you were making a change, but you realize at some point that you’ve made a mistake. By reverting, you can reset your local copy of any file to whatever the server has, and just start over.

1. Right click “Test Document 1.txt” > TortoiseSVN > Revert...



2. Select "Test Document 1.txt" to revert it
3. Click OK, and click OK to the log window.
4. Try opening "Test Document 1.txt"; your change has disappeared!

Your change disappears because you never committed it, so the server gives you the most recent version that was committed.

**Challenge:** Delete "Test Document 1.txt". Try reverting the deleted file. (Hint: try right clicking blank space > TortoiseSVN > Revert...)

## Updating your local copy

You might update to see if any files have changed since your last update. You should update periodically to make sure you have the latest files, and you **really should** update before you make changes, so that you're working on the latest files.

1. Right click blank space > SVN Update
2. Click OK to the log window

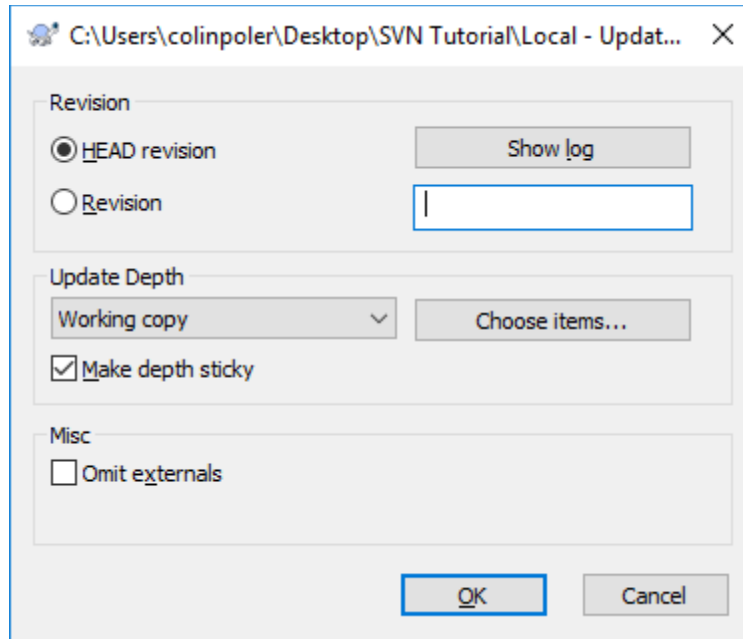
## Getting an old version or changing which files you sync

SVN keeps all historical versions of files, so you can get old revisions too!

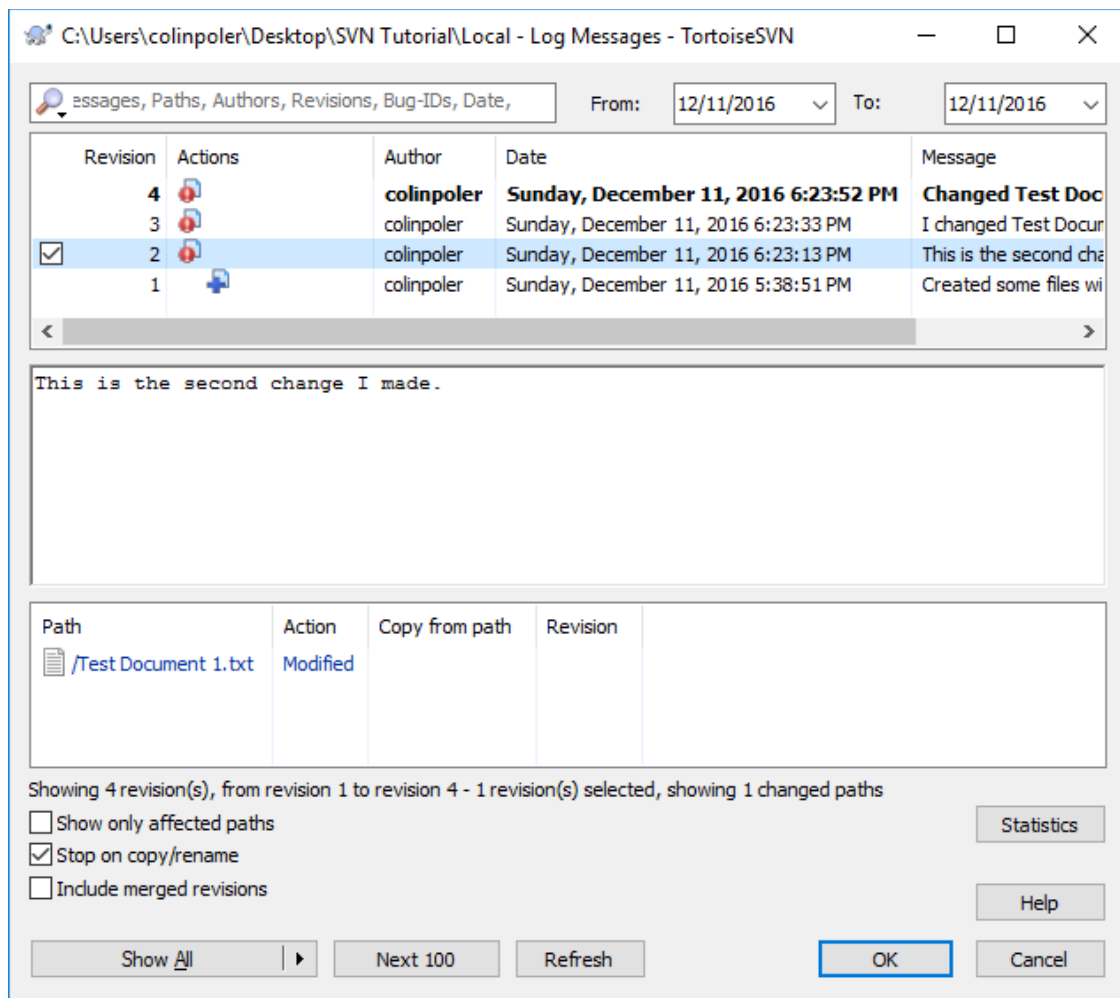
You may also want to limit the number of files you sync, because Rocket Team SVN might take up a lot of space. Here's how to do that.

1. Right click blank space > TortoiseSVN > Update to revision...

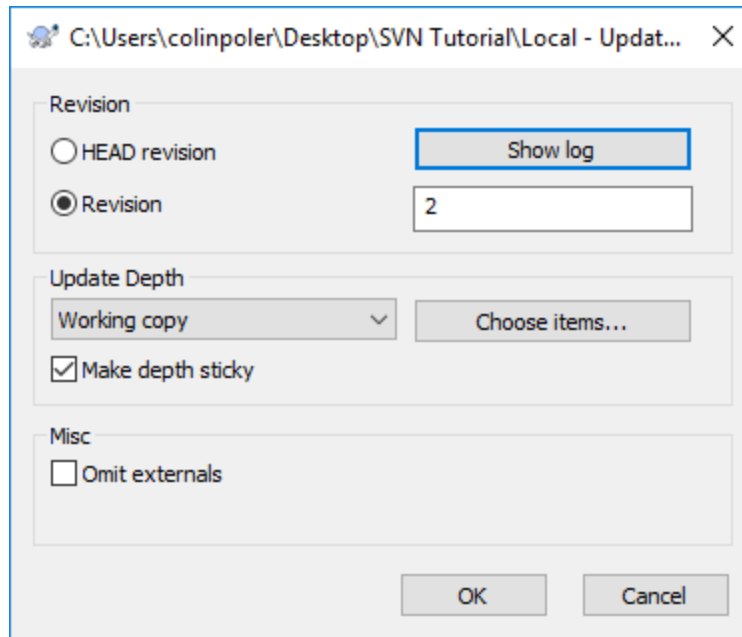




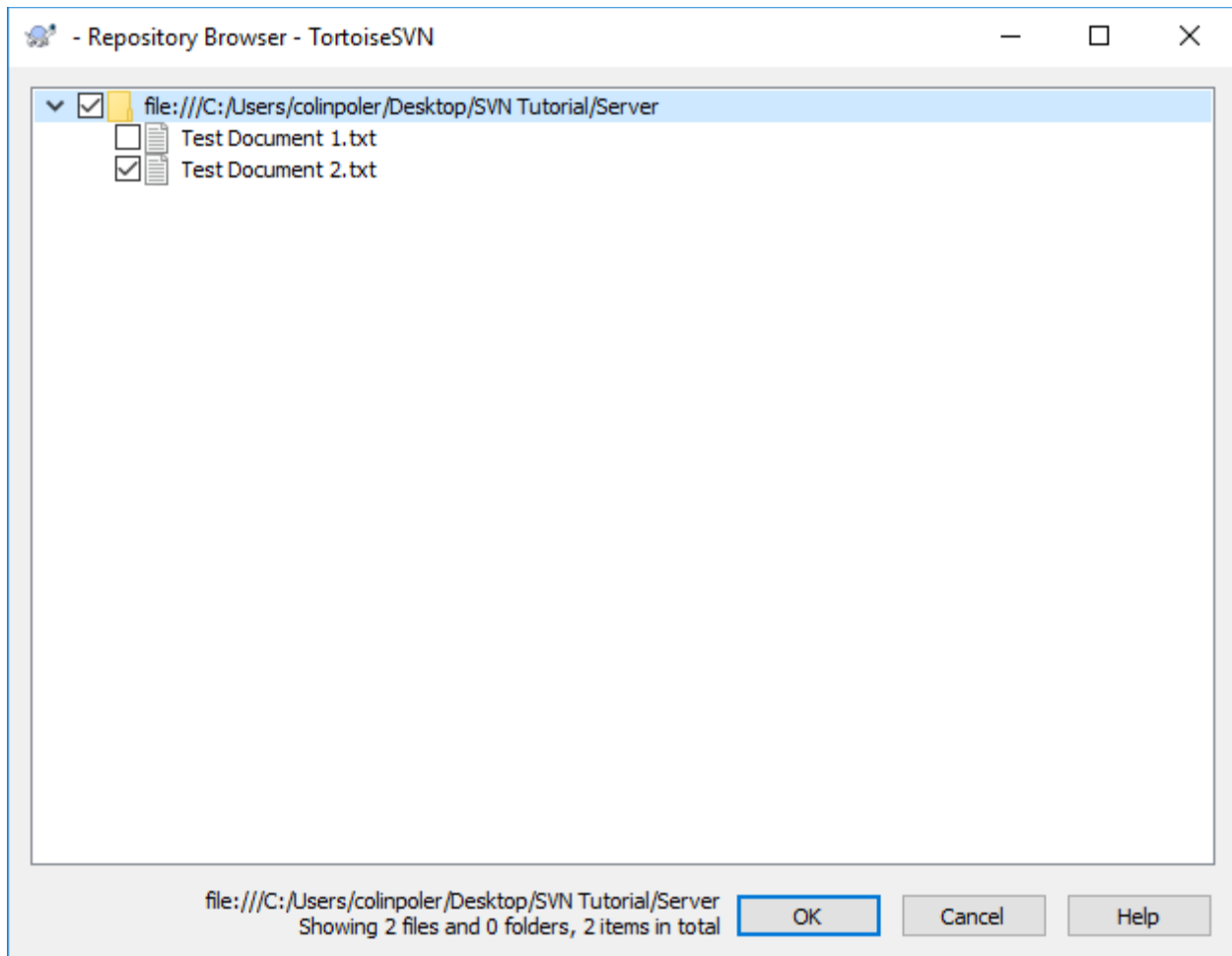
2. Say we want to get old versions. Click “Show Log”



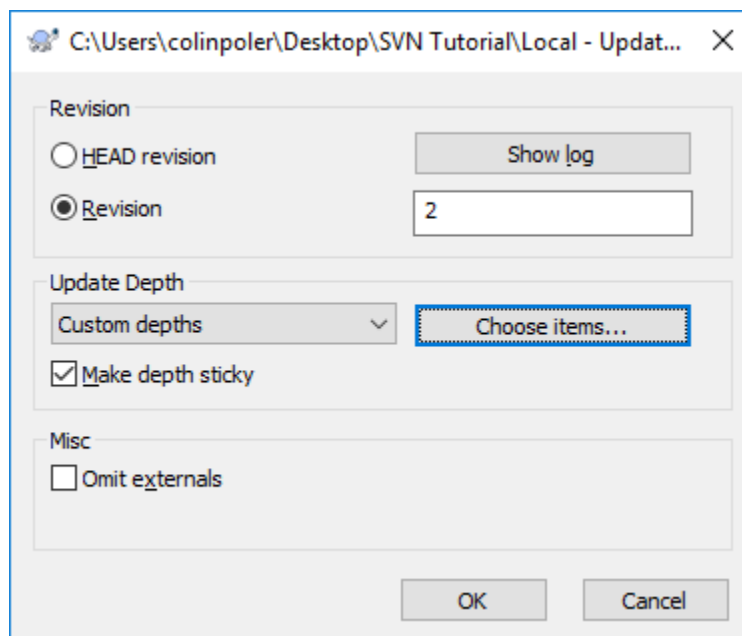
3. Select the revision you want to get. This is where commit messages are invaluable.



4. Click OK. Notice that the revision number you selected is now typed in the Update to Revision window.
5. Say we only want to sync one file. Click "Choose items..."



6. Select just one of the documents.
7. Click OK

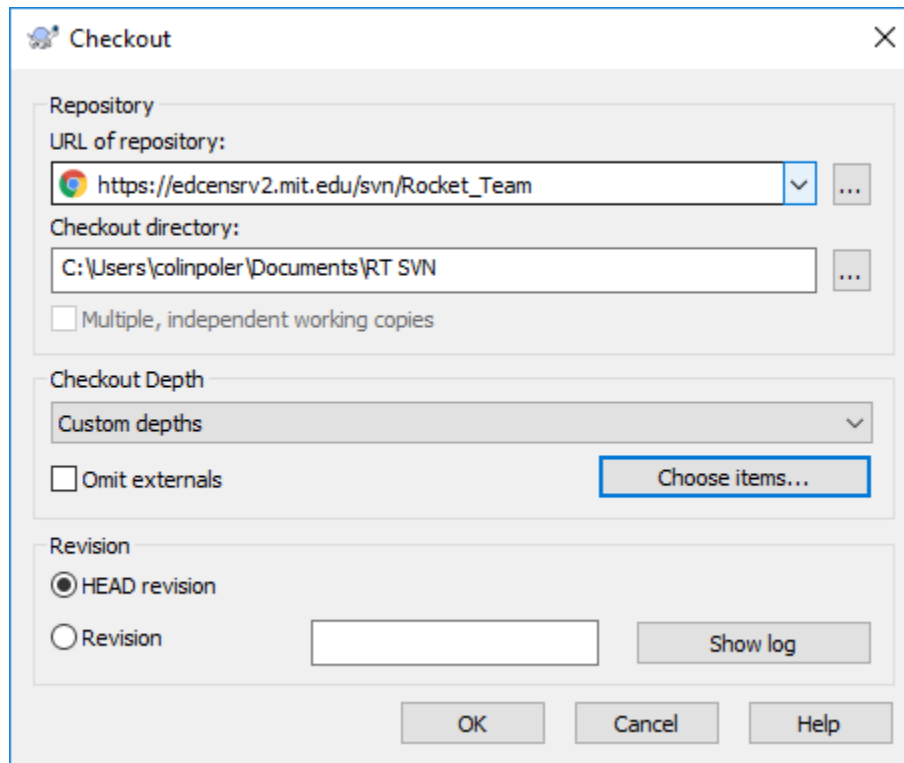


8. Click OK, and click OK to the log window.
9. Notice that only the file you selected is left.

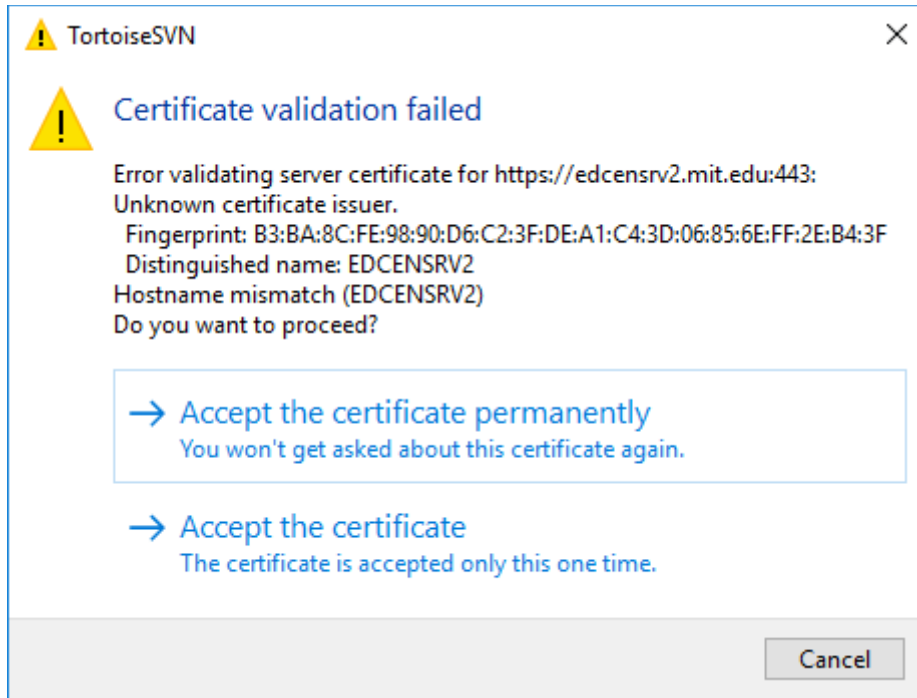
The other file isn't on your machine, but the server still has it. Also, next time you commit, SVN knows not to delete the server copy.

## Connecting to the Rocket Team SVN

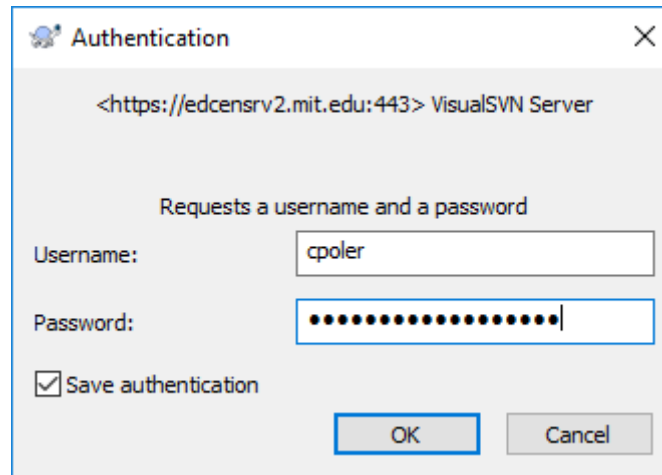
1. Go to your Documents folder (or any directory you want)
2. Make a folder called "RT SVN", and navigate into it
3. Right click blank space > SVN Checkout...



4. For the URL of repository, enter "https://edcensrv2.mit.edu/svn/Rocket\_Team"
5. Click "Choose items", select all the subteam folders that you want to sync, and click OK.
6. Click OK.



7. Click "Accept the certificate permanently". This appears because we didn't pay for a certificate authority to endorse our certificate.



8. Type in the username and password that you'll be given.
9. Click OK to the log window.
10. You're connected to the RT SVN server! Have fun rocketing!