Cave Survey Subversion Repository (SVN Repository)

Contents

What is a SVN repository?

The SVN Repository is designed to be a central location for a master set of files that all authorised users can access. This allows a common set to be updated and amended. In theory, this allows lots of people to work on a project. To use the repository, you will need to install the software **(TortoiseSVN),** by downloading it from the web.

During the installation, you will create a folder on your PC which will act as your local repository. The software will copy the survey files into this folder where they will be available for you to work on them. Before working on a file, you can ask the software to check to see if the copy of that file in the central repository has been changed by someone else and, if it has, it will modify the version on your PC so that you have the latest changes. After working on a file, you tell the software to update the central copy with your latest changes so that these are available to the rest of the team.

So, rather than lots of copies of big files being emailed around, with the risk of losing track of who has got the latest version, the software merely makes small, necessary changes to a central copy and these can be replicated onto the copies on individual machines. This means that we save time by not having to shift big files around and also we can ensure that there is one, definitive, up-to-date master copy of each file which is accessible to all users 24/7.

Another massive advantage is that the central repository doesn't throw away the changes that have been made; these are kept as previous versions of the file. This means that you can go back and see what the data set looked like, say, before the last 4 revisions were made. As a result, if you or someone else screws up and makes a mistake, that mistake can be undone fairly easily.

Things to remember when using the repository

Like most software, the repository is very powerful and can do many things. However, it's the humans who screw things up. So, to make it work a few rules have to be followed: For example:

- Before you work on a file, check for any updates.

- When you have finished with a file, update the central repository immediately. Don't hang on thinking you'll make some more changes tomorrow or next week. (If 2 people try to update the same file at the same time, conflicts are likely to occur. The program has a utility to try and resolve this; however, if two people change exactly the same bit then it can't decide what to do without help from a knowledgeable human. So it's best to avoid this occurring by checking for updates and posting updates promptly).

- If you see a conflict, the best thing to do is to email the group and warn them not to do any more work on this file. At the same time, email a copy of the changed file to the Cave-registry administrator and repository contact. (Hopefully, as most survey files are usually only worked on by one person this is not likely to be a big issue).

- Update the repository in small amounts; preferably as consistent sets of changes. e.g. if you add a new survey file then you would check in that file, and the change to the main file which refers to it, together.

- If you have a file that you have changed, process it to see if it works. If it doesn't, try to fix it, if you cannot then email the group giving as much detail as possible, to stop people working on a broken file and send a copy to the Cave-registry administrator and repository contact with an appropriate note.

- If a file can't be fixed, the use of a repository makes it possible to revert to the previous version.

- Every time a change is made, the system asks for a comment. Please fill this in, giving as much useful detail as possible - remember many people are going to be trying to follow what is going on. i.e. be more specific than 'added some data'. The system knows which files you changed

- Please don't store in the repository files that can be generated on your local machine, (eg .3d or .err or .pdf files). Instructions are given in the set-up to stop the software on your machine from uploading these types of files.

- Some actions that were easy to do on a local PC, now have to be done through the **TortoiseSVN** interface. For example deleting, renaming and moving files. Instructions for this are given below.

Setting up your local SVN repository.

Before you start – please read the appendix about security.

All the diagrams in these instructions were produced using a Windows 2000 machine. If you use another operating system, the menus may be slightly different. However, the commands to which I refer should always be in the visible list.

Installation instructions

You'll need your Username and password. You will be sent your password an appropriate secure method. Your username will be firstnamelastname

Download and install **TortoiseSVN** from:

http://tortoisesvn.net/downloads.html

Click on the link for **either the 32 bit or 64 bit** version depending on your operating system.

Then download "**TortoiseSVN-1.7.2.22327-x64-svn-1.7.2.msi".** *(the numbers may have changed)* Save this file to a folder in a suitable location on your PC. Navigate to the downloaded file and double click it to start the installation wizard. Follow the instructions. (You may get a text file with fault reports – ignore it!). You will need to restart your computer in order to complete the installation process.

When installed, **TortoiseSVN** becomes a simple set of additional commands in Windows Explorer.

Create a folder called **RepositorySVN** in an appropriate place on your PC. Right click on **RepositorySVN** and choose **TortoiseSVN:Settings** from the menu that appears.
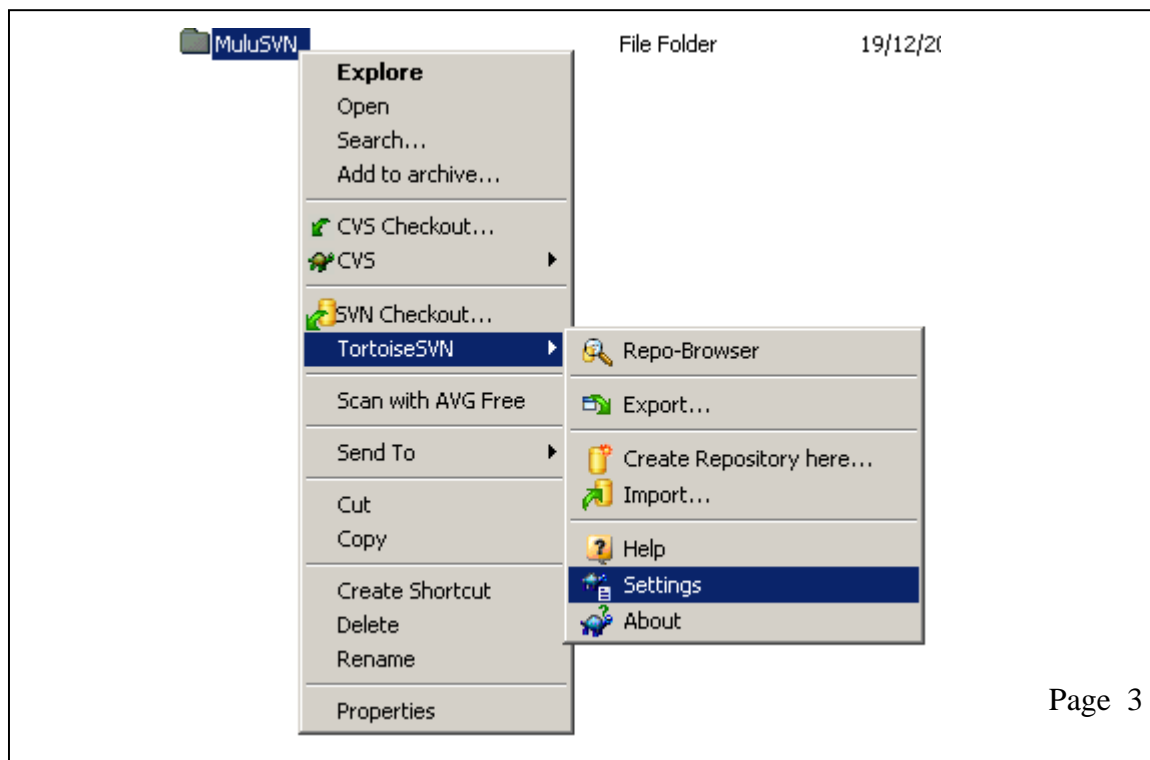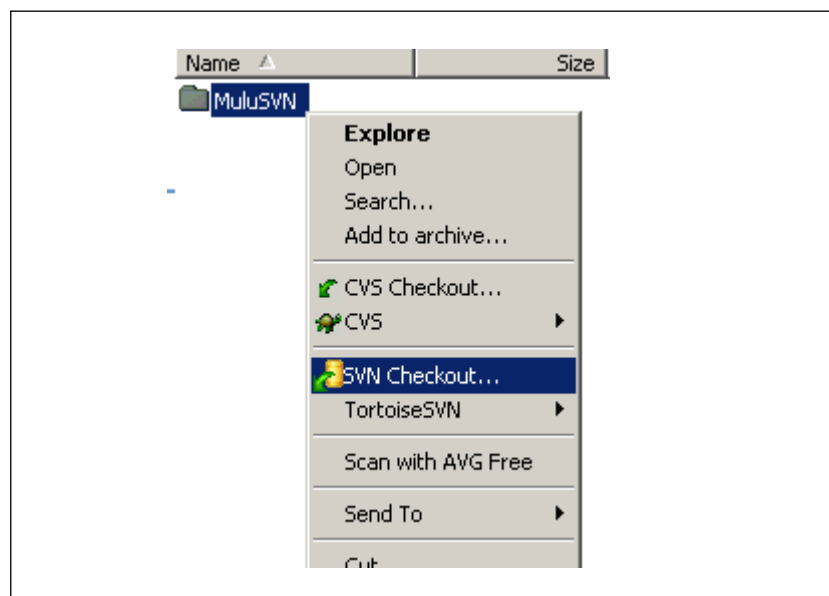
When the settings box opens, select the general section, then in the box labelled **'Ignore/Exclude Pattern'**, type "*.3d *.err *.log *.pdf .xth_thconfig_xth"
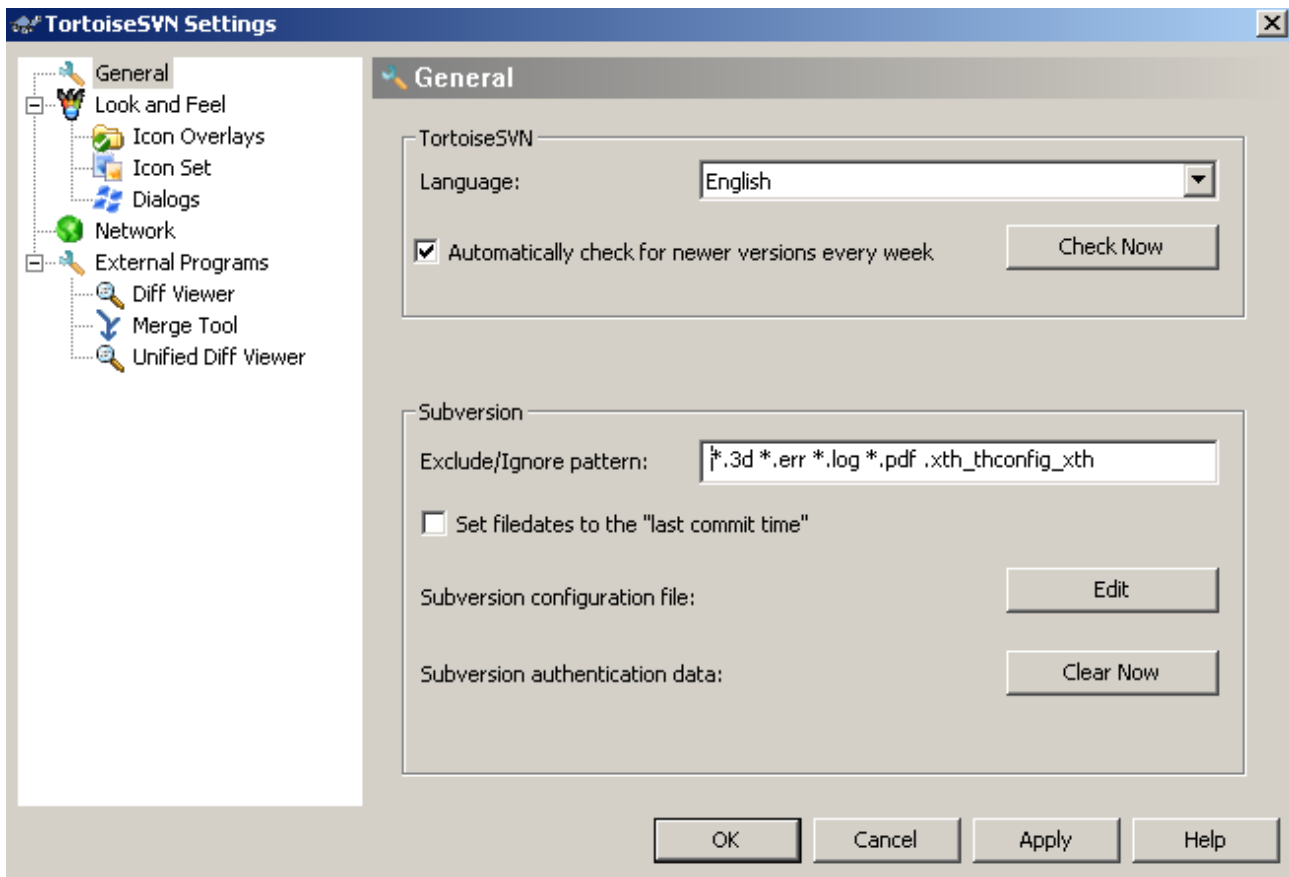

If you haven't got a username and password, you didn't read the instructions. See above and check your email.

Right Click on **RepositorySVN** and choose **SVN Checkout**...

Which will bring up the following screen. In the box labelled **URL of Repository**, type the address which you will have been given with your password

TortoiseSVN should automatically fill in the **'Checkout directory'.** This should be the folder you have just created **RepositorySVN** This is the location for your local files. The example shows mine on my F drive in a folder called 'temp'.
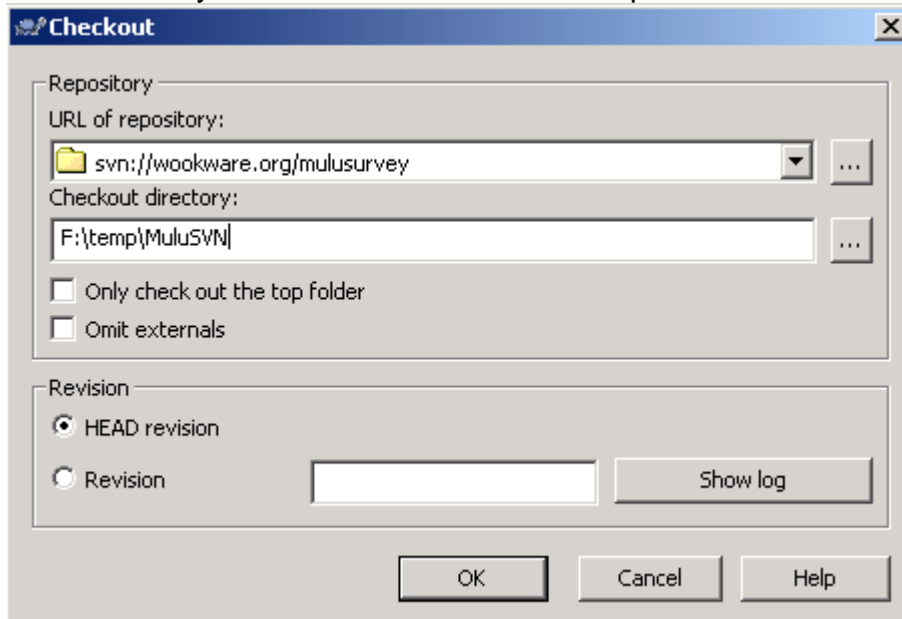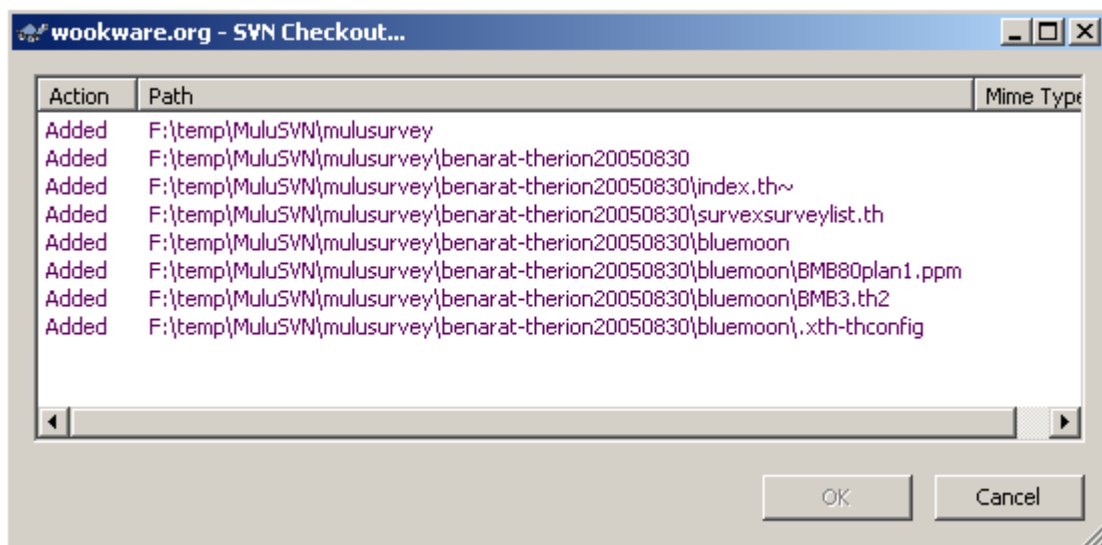

You will now be prompted for your **username** and **password** (which you've already got).
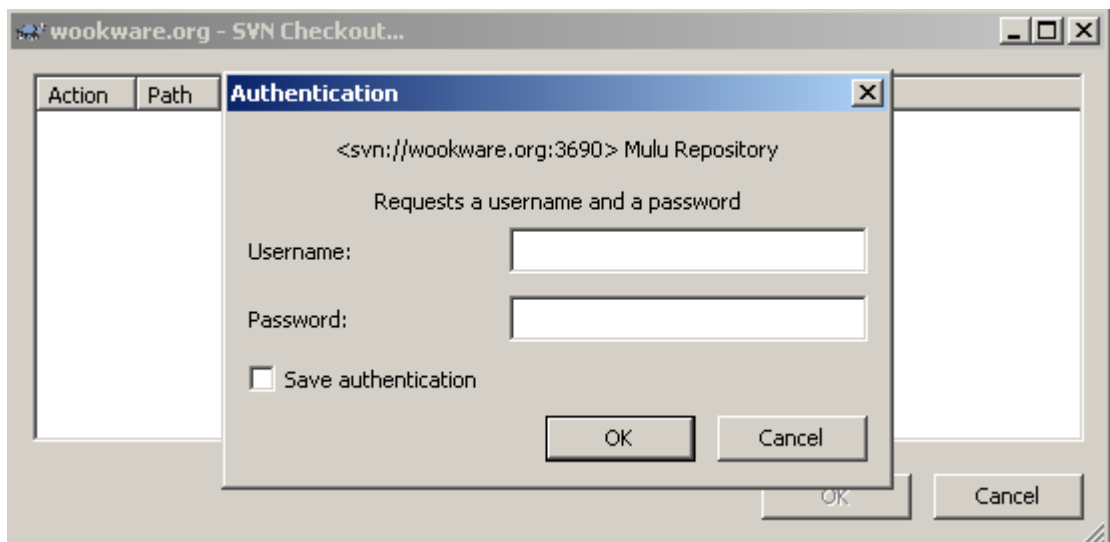
Input your username and password and hit **OK**. Remember that it is case sensitive.

Your computer will then connect to our server and download the survey files. You will then get a screen that looks something like this.

The speed of download will depend on your connection speed. You might want to make a cup of tea.

You are now ready to use your local repository. Instructions on the basic functions are set out in the section: Maintaining Your Repository, below.

Maintaining Your Repository

Updating the local copy

You should do this before you make any changes to survey files, so that you are sure that you are using the latest version of a file
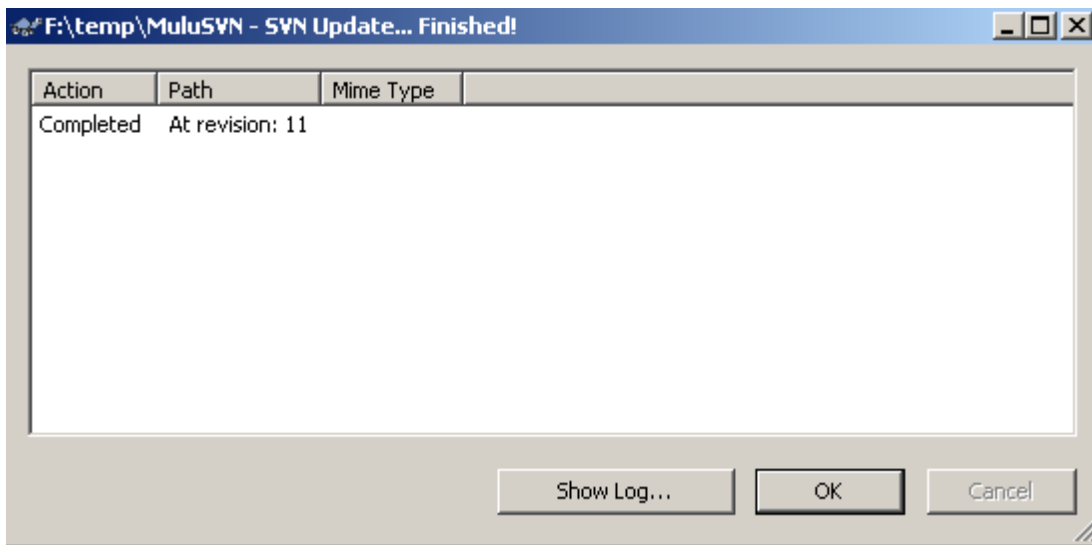
Right click on **RepositorySVN** and choose **SVN Update**
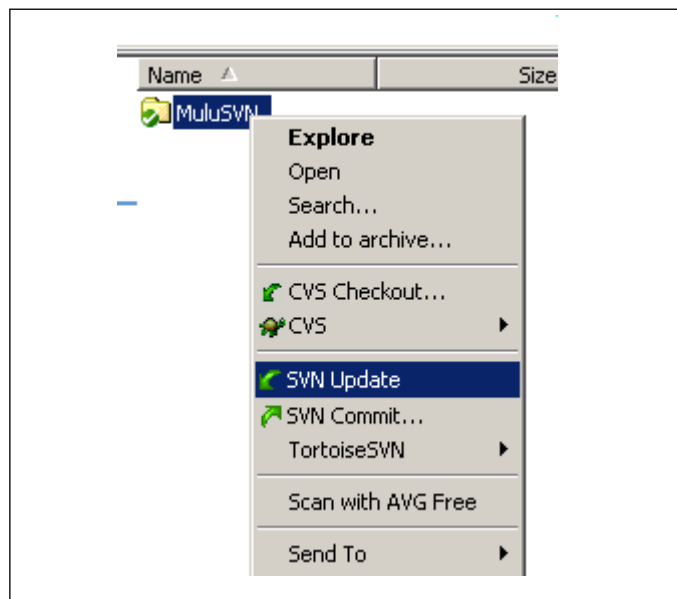
You will get a screen like the one that follows, unless you have asked the computer to remember your password in which case the password box will not come up.
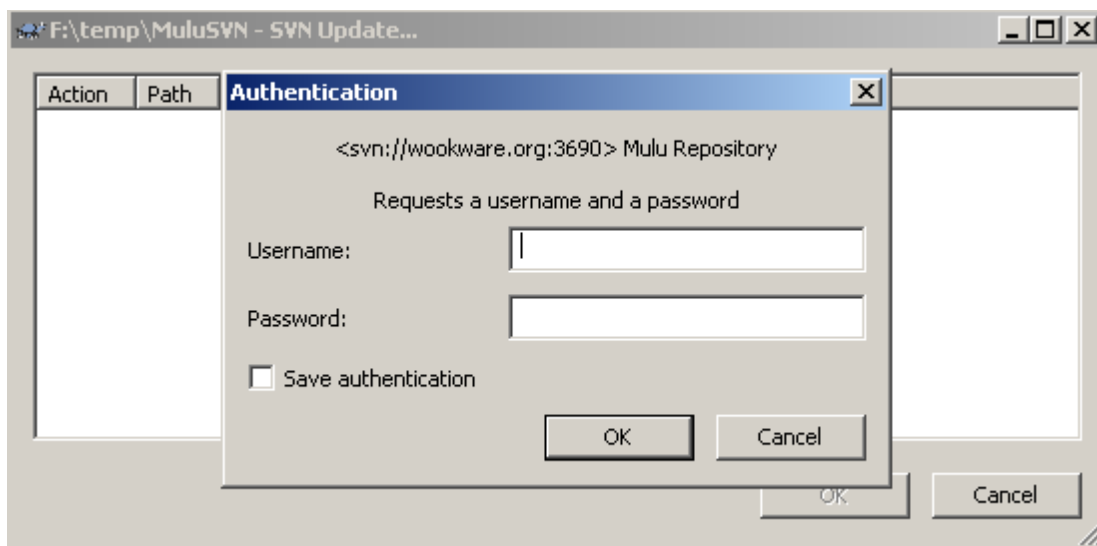
Then, depending on how much needs updating, you'll get a screen like this:


All the ticks on the folders should go green, but this may require a few refreshes and closing and reopening, ie, if they don't go green, do it again!

Updating the remote repository

Do this immediately after you have made a change to a file to ensure that the latest version is available to others and reduce the chance of them working on an old version.

Right click the file and choose **SVN Commit**

This will brings up a screen similar to the following. Type in a comment that will be useful to help others understand what change you made (the software will check spelling but in this example, I ignored it {Damn.}) Click **OK**.
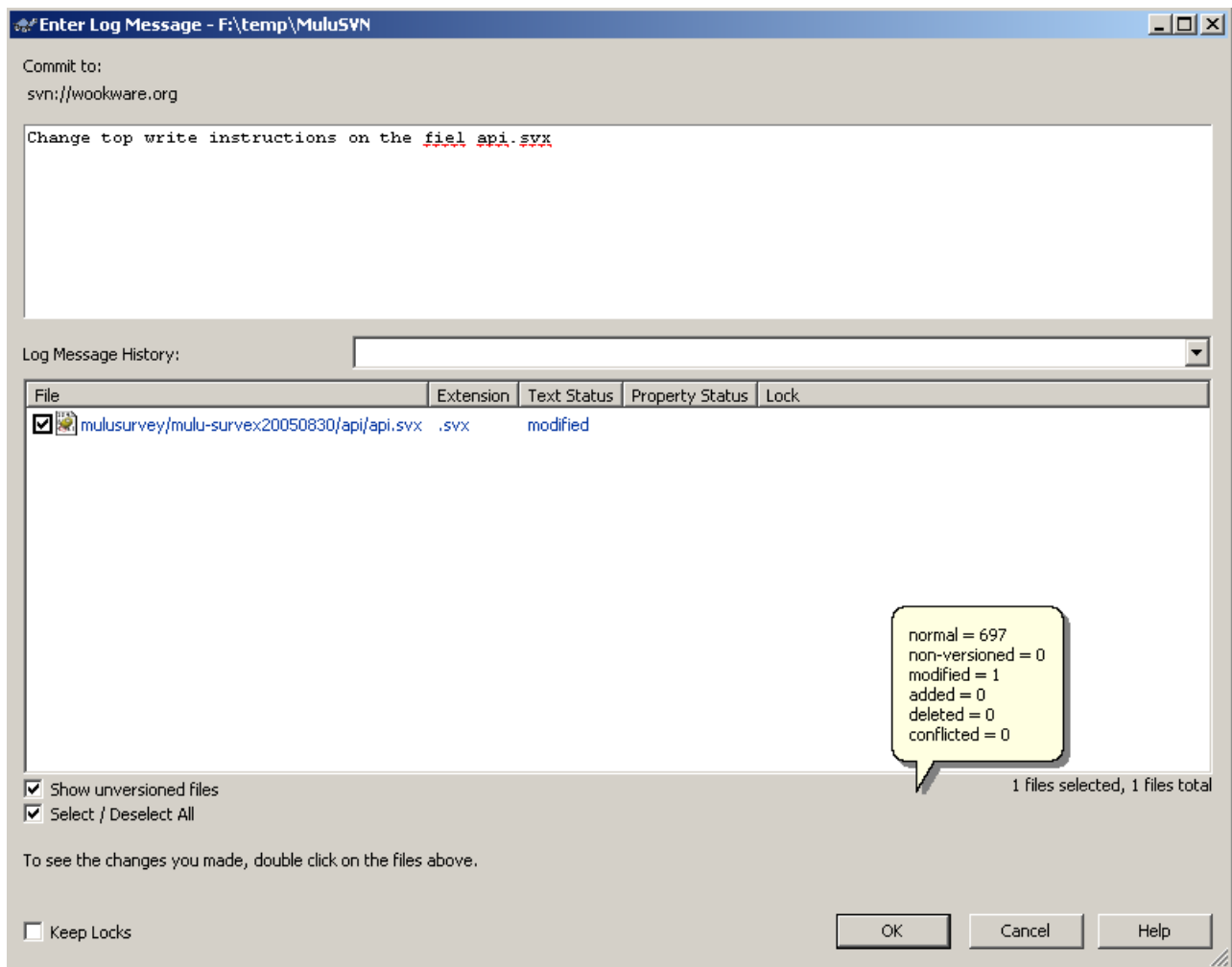
If there is a conflict it will give an error for that file and put a yellow triangle containing an exclamation mark on the file.
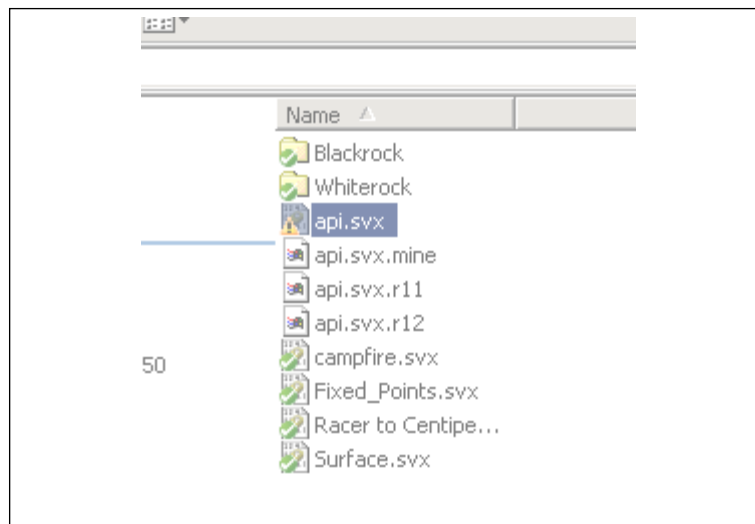
And along the entire branch
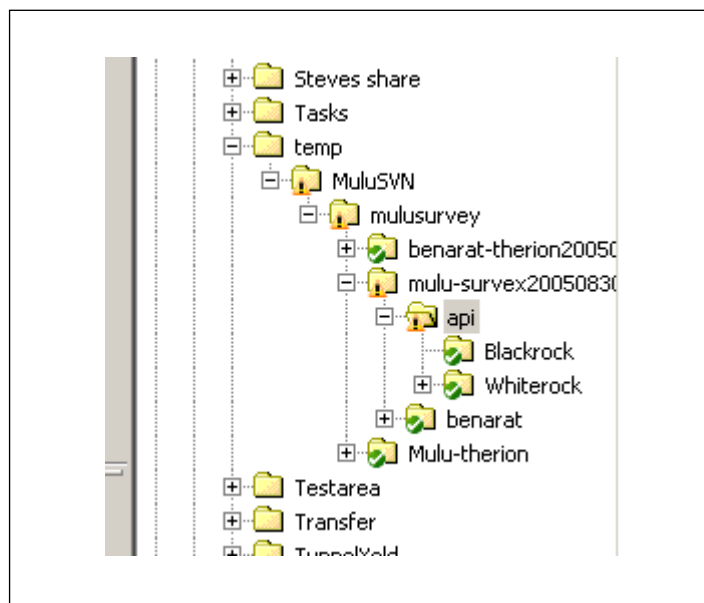
If this happens, email a copy of the file to the Cave-registry administrator and repository contact with as much detail as possible. Email the whole group to stop anyone else from working on it – if they do, they will make the problem worse.

When the problem has been resolved, you can use **Revert** to get back to the corrected copy which will have been placed on the central repository (see next section).

Reverting

If you have tried editing a file but want to abandon the changes you have made, you can use the **Revert** command to replace your local file with the version on the central repository.

You can use the same command to replace a local, conflicted file with a version that has been corrected and placed on the central repository.

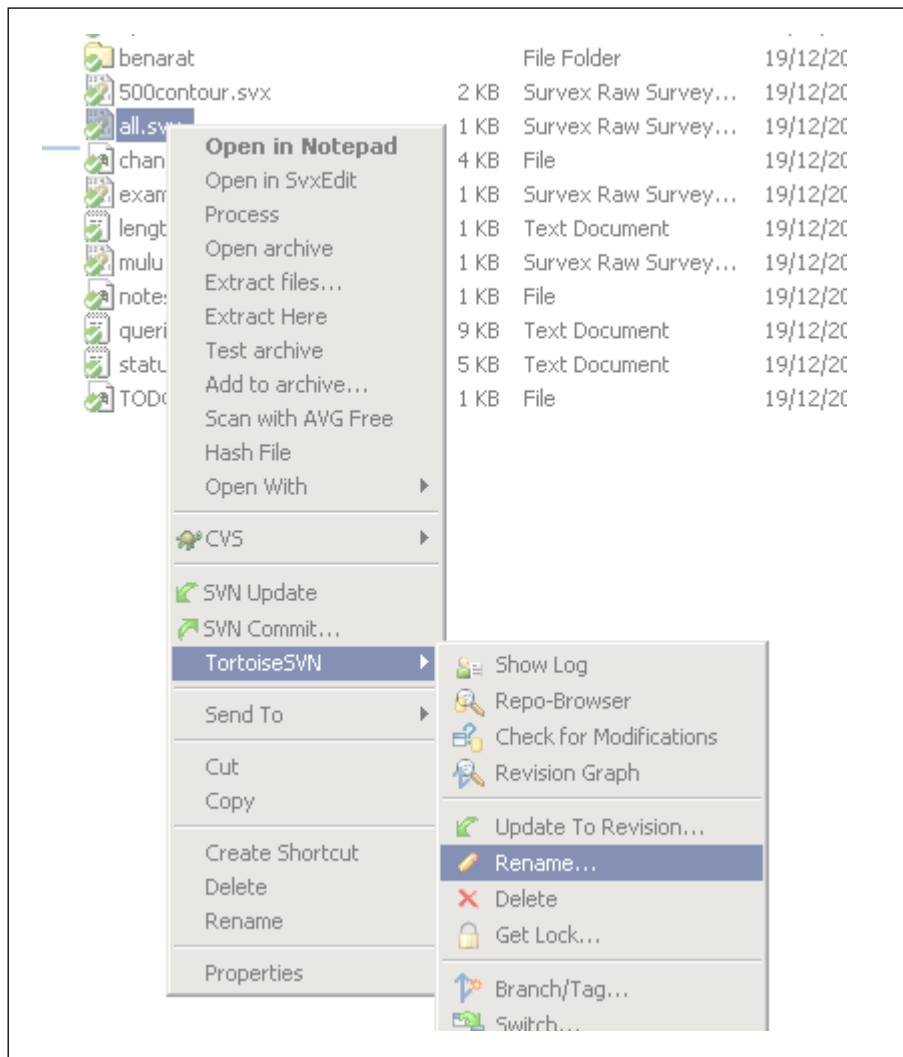Right click and follow **TortoiseSVN:Revert...**
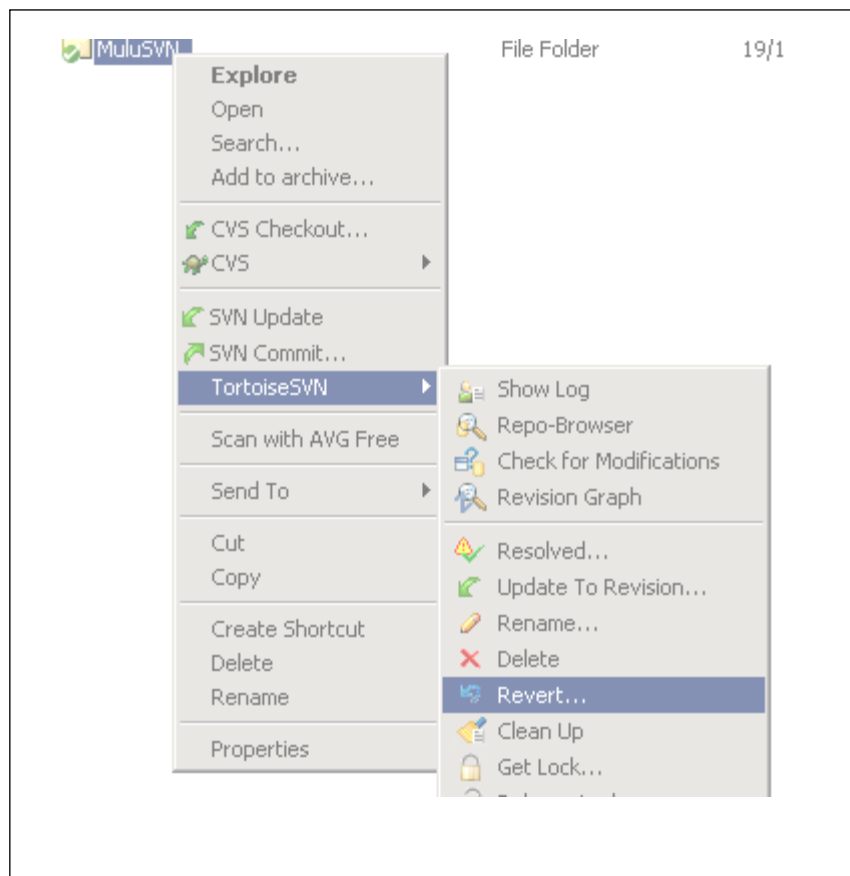
More advanced repository methods

Renaming

(Renaming files is dangerous, since the names link the whole data set together. So please undertake this action with extreme caution.)
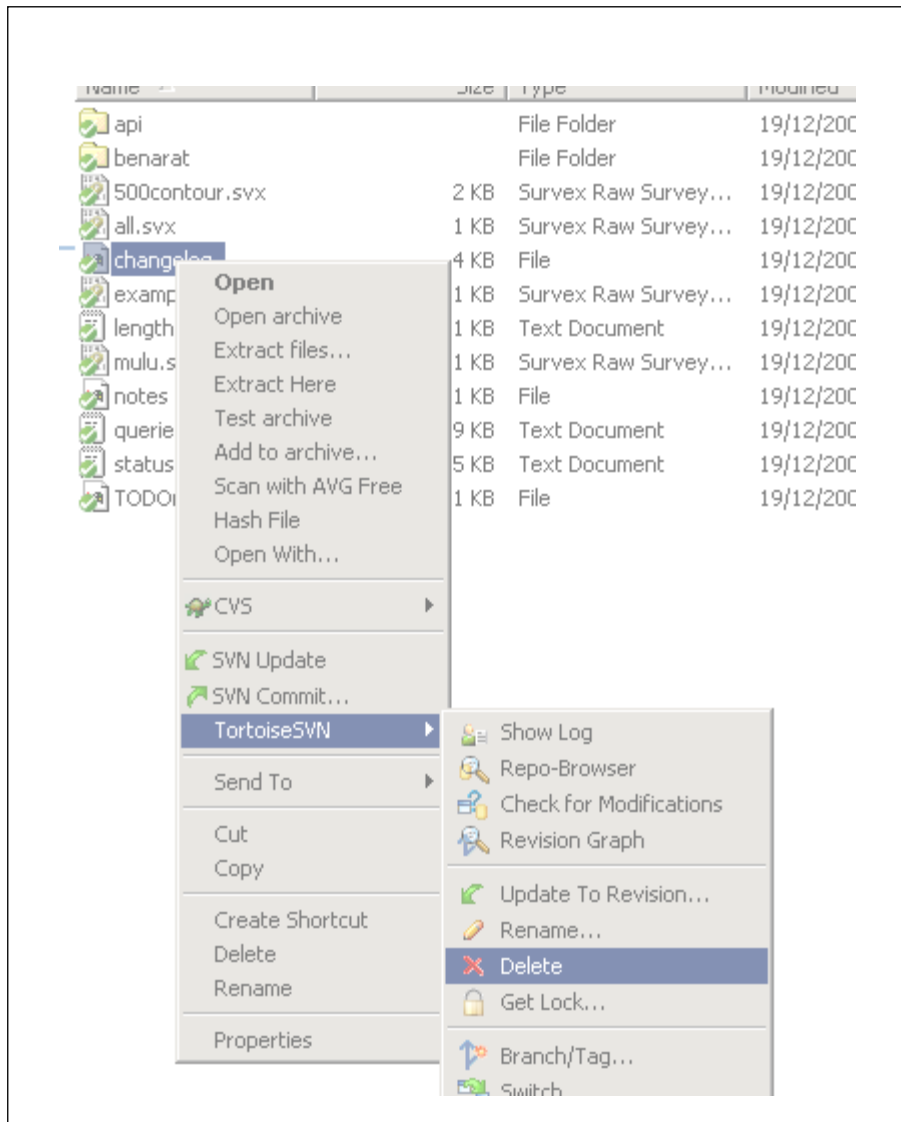
Right click follow **TortoiseSVN:Rename**

Edit the file name within the box that appears.

Deleting

Right click, follow **TortoiseSVN:Delete**

A file will disappear in the normal way. A folder will have a red cross on it and disappear when you commit. To restore from the central repository, use the revert command on a folder higher up the tree.

Moving/Copying files/Directories

Moving files is dangerous, as the structure of the hierarchy links the whole data set together. Please only undertake this action with caution.

Right click the file and drag it to the desired new location. When the file is dropped the software will give you a choice of actions. You will mainly use **SVN Move versioned files here** or **SVN copy versioned files here**. (***Warning***. Moving whole directories can lead to big changes in the repository, which may screw things up. If in doubt ask advice from Wookey or Andrew.
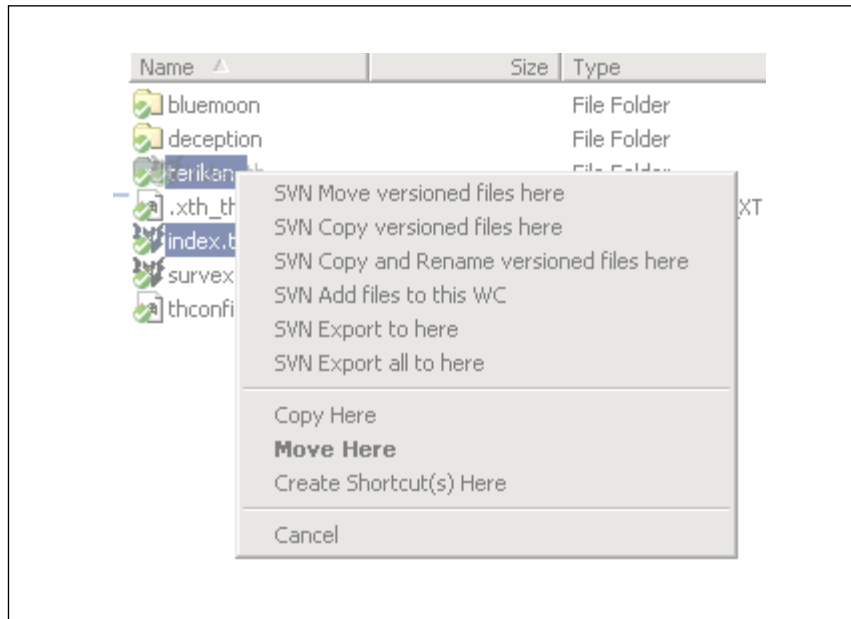
Final Words

Hopefully the use of the repository will become familiar to you. It offers some significant advantages since we now have an economical way to keep files up-to-date and to minimise duplication. Also, if everything is scanned there will be multiple backups and nothing will be lost ever again. Technology has some advantages! If you do scan stuff, please note that .png is the preferred format, please *don't* use .pdf.

If you need any assistance email me. Sometimes it can take me a while to reply, depending on what I am doing, but I will get there

Andrew

E: andrew@wotcc.org.uk

Tel home: 0117 9623495

Appendix: Security

The User names and passwords for our system will give you access to the SVN repository on a server (computer) that is permanently connected to the internet and therefore under constant attack from hackers and other social malcontents. You do not have a full login so the server itself cannot be harmed if people get your login info - the only damage that can be done is to our survey data, but that is a very valuable resource we have collectively spent an enormous amount of time and money collecting. In the future there might also be other important data in the SVN server.

It is therefore important to take some care to the password and your username secure. To foil software which tries to guess logins and passwords the password will not be a dictionary word and should contain a mixture of numbers together with upper & lower case letters, preferably including some punctuation too. Eg Ri*&a£3d

The password will be given to you in an appropriate secure manner. You cannot change your password, other than by asking Andrew to do it.

It is important that your password is kept within the circle of people who are allowed to access our data. For example, if a password is compromised, some devious b***ard could trash our survey data. When you use the programme, you will be prompted on screen to ask if you want the password to be stored for you. This is fine, so long as you are sure that your machine is secure and free from viruses. If in doubt, don't let the machine store your password. If you do store the password, make sure that it is removed before you pass the machine on. If you are working away from home, on someone else's computer or a shared computer, don't set it to save the password.

As with all use of the internet, your machine should be up-to-date with virus checkers and spyware blockers. I personally use AVG anti virus and Spybot, which are free for home use and, once set up, can be set to auto-update, therefore requiring less thought and time and reducing the chance of the AV software being out of date. If you haven't got anti-virus and anti-spyware on your machine you should install it. You can get the software from:

http://free.grisoft.com/doc/2/lng/us/tpl/v5

http://www.safer-networking.org/en/download/index.html

Please run a scan for viruses and spyware before using the SVN repository, and for the sake of everyone using the system, keep them up to date. It would be very embarrassing if you uploaded an infected file to the repository and contaminated everybody's computers!

(If you use Windows operating software - Win 2000 or later versions have 3 main types of user accounts: 'administrator'; 'poweruser' & 'user'. It is good practice to have a user account for everyday work and web browsing, since this type of account restricts what can be changed on the machine. When you want to install something, you should log on with an administrator account which should have a 'strong' password).