

9492 - Computer Science Concepts

Working with SVN

Objectives

To introduce you to the Subversion (SVN) repository system. This allows you to back up your assignments and hand in your assignments.

You will need

A computer

These notes and the lecture 'Introduction to SVN and Fault-finding'.

Before you start

Read the lecture notes for Introduction to SVN up to slide 23. You can read beyond this if you want to but we won't use that information for this handout.

It's important that you understand what a repository is and the difference between your local student file system and the copy which is kept on the repository. Read the notes again if that doesn't make sense.

Working with SVN

SVN is an essential part of our handin and marking system as our Automark software will go and look in your repository for your assignment. If you don't put your assignment in the repository or you get the repository name wrong then it can't be marked! Throughout this handout, we use the fake username aXXXXXXX to stand in for your own username. Remember to replace it or you won't be able to work with the repository.

Here's the process that you follow when you want to set up a new assignment.

1. First, read the assignment. This will tell you what you have to do, when it is due by and what your repository name should be. Take careful note of the repository name because, as I said before, if you get this wrong you risk not getting marked off for handing in this assignment.
2. Now, usually before you write any code, you create a new repository which will contain all your new work for this assignment. Let's say that the repository has to be called csc-07-s2-prac0. (Repository names are normally easy to work out as they almost always have the subject abbreviation, the year, the semester and the name of the assignment after them).

To create this, we issue the following command:

```
svn mkdir https://version-control.adelaide.edu.au/svn/aXXXXXXX/csc-07-s2-prac0  
-m "Creating new repository for CSC prac0"
```

(All of this goes on one line! You must put the -m in as it's a requirement to log messages when you change the repository. See the Intro to SVN handout if this confuses you.)

3. Now you have a repository directory which has the correct name. To work with it, you need to get a *working copy* in your own file system. To do that you have to check it out. First, get to the place in your own student file system where you wish to have this new directory and issue the following command:

```
svn co https://version-control.adelaide.edu.au/svn/aXXXXXXX/csc-07-s2-prac0
```

(Note that you can use *co* as a shorthand for *checkout*.)

4. Now we have a working copy, we can add files to it. Change directory (*cd*) to the subdirectory *cscs-07-s2-prac0*. You can either create files here or copy in files that you've created elsewhere. Once you have a file here that you wish to add to the repository, type this:

```
svn add <filename>
```

(<filename> should be replaced by the name of the file which you wish to add. For example, to add *Sfsg.java*, you would type `svn add Sfsg.java`)

5. This has not yet updated your repository! All this does is tell your repository that, the next time it commits changes, it should include changes made in the named files. To update your repository so that it reflects all the changes in your working copy, you have to issue a *commit* command, like this:

```
svn commit -m "New SFSG file, with solution"
```

(Make sure that you put meaningful comments after the *-m* flag. This will help you down the track if you try to retrieve a previous version of an assignment.)

6. From now on, whenever you make changes to any of the files which you have previously added, you can update your repository with a *commit* command. Important note: You only need to add each file once!
7. Now you can use Automark to check what you've handed in. You should follow the link on the course web-page to the Automark system and select the right year, semester, course and assignment. You can submit your answers as often as you like to the Automark system – we only record the marks for the last one handed in. Make sure that you read any feedback that the Automark system gives you. It will tell you if it can't find your repository and sometimes it will also tell you if something is wrong with your assignment.

Important points to remember:

- The repository system does not automatically copy information from your file system. If you make changes then, to get into the repository, the changes must have been to added files and you must have issued a *commit*.
- If it's not in the repository, we can't mark it. If you don't run Automark, we don't record a new submission. If you make changes, *commit* them and resubmit your work to Automark.
- The repository system can be used from more than one computer but, if you do this, you must take care to remove your working copy on one computer (after committing) before starting work on the other computer. While this isn't always necessary, it's generally a good idea as it stops you accidentally making changes to the same piece of code in two different places.