

## SUBVERSION FOR COMPILER DESIGN STUDENTS: A CRASH COURSE

Subversion is a version control system similar to CVS, and was designed by people who were annoyed by the shortcomings of CVS.

### QUICK START

Log in to `cvcs.cs.mcgill.ca` using `ssh`, then

```
svnadmin create /xtra/cs520-XX/repo
```

Replace **XX** by your two digit group number, and “**repo**” by whatever you feel like. Now, put some files in the repository

```
svn import projectdir file:///xtra/groupX/repo -m "Initial import"
```

It helps if your project has the following directory structure:

```
projectdir/  
projectdir/tags/  
projectdir/branches/  
projectdir/trunk/      ⇐put your code here
```

You’ll see why once you’ve used subversion for a bit. After the initial import, check out your project with

```
svn checkout file:///xtra/groupX/repo/trunk project
```

Where **project** will be the local directory name.

svn commands have the following syntax:

```
svn command [options] [args]
```

### VERY USEFUL COMMANDS

(Familiar to those of us who’ve struggled with CVS before...)

<code>add</code>	Adds files and directories.
<code>blame</code>	Shows detailed author and revision information for file(s).
<code>commit</code>	Send changes from working copy to the repository.
<code>delete</code>	Delete item from working copy or repository.
<code>export</code>	Create a clean copy of the repository.
<code>log</code>	Display commit log messages.
<code>move</code>	Move a file or directory.
<code>status</code>	Print status of working copy.
<code>diff</code>	Display difference between working copy and remote repository.
<code>update</code>	Update working copy from repository.

You can also use `svn` from the labs or from home by substituting “`file:///`” for “`svn+ssh://user@cvcs.cs.mcgill.ca/`”.

### HOW TO USE

Here’s an example session, assuming that I’ve already created the repository with the `svnadmin` command on `cvcs.cs.mcgill.ca`, and I’ve set up my project with the above directory structure. Try it to see what’s going on.

```
svn import joos svn+ssh://kwysoc@cvcs.cs.mcgill.ca/xtra/group9/joos  
[ I can now rm -rf joos since it's on the cvs server ]  
svn checkout svn+ssh://kwysoc@cvcs.cs.mcgill.ca/xtra/group9/joos/trunk joos  
[ I can now work in the new joos directory. Some time passes. What have I changed? ]  
svn diff  
[ Group members say they have committed some code. Let's see what they did. ]  
svn update  
svn blame -r COMMITTED:HEAD *  
[ I've worked on the peephole optimizer for a bit... time to let my group-mates know ]  
svn commit -m "Added some more optimizer patterns"
```

### RESOURCES

<http://subversion.tigris.org/> - Main svn site

<http://google.com> - There is tons of help to be found, including quick reference cards.

`svn help [command]`