SUBVERSION FOR COMPILER DESIGN STUDENTS: A CRASH COURSE

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

QUICK START

Log in to cvs.cs.mcgill.ca using ssh, then

```
svnadmin create /xtra/groupX/repo
```

Replace X by your group number. Replace “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...)

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

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

HOW TO USE

Here’s an example session, assuming that I’ve already created the repository with the `svnadmin` command on `cvs.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@cvs.cs.mcgill.ca/xtra/group9/joos
[I can now rm -rf joos since it’s on the cvs server]
svn checkout svn+ssh://kwysoc@cvs.cs.mcgill.ca/xtra/group9/joos/trunk joos
```

cd joos

[I can now work in the joos directory. Some time passes. What have I done?]
```
svn diff
[ Ooh, our groupmates 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]`