September 2001
Updated November 2003

Ultra-short introduction to CVS

Jyrki Katajainen

Department of Computing
University of Copenhagen

Concurrent Versions System (CVS)

```
> cvs --help
Usage:
cvs [cvs-options] command [command-options-and-arguments]
where cvs-options are -q, -n, etc.
  (specify --help-options for a list of options)
where command is add, admin, etc.
  (specify --help-commands for a list of commands
   or --help-synonyms for a list of command synonyms)
where command-options-and-arguments depend on the specific
  command (specify -H followed by a command name for
  command-specific help)
Specify --help to receive this message
```

CVS commands

```
> cvs --help-commands
add         Add a new file/directory to the repository
admin       Administration front end for rcs
annotate    Show last revision where each line was modified
checkout    Checkout sources for editing
commit      Check files into the repository
diff        Show differences between revisions
edit        Get ready to edit a watched file
editors     See who is editing a watched file
export      Export sources from CVS, similar to checkout
history     Show repository access history
import      Import sources into CVS, using vendor branches
init        Create a CVS repository if it doesn't exist
log         Print out history information for files
login       Prompt for password for authenticating server.
logout      Removes entry in .cvspass for remote repository
rdiff       Create 'patch' format diffs between releases
release     Indicate that a Module is no longer in use
remove      Remove an entry from the repository
rtag        Add a symbolic tag to a module
status      Display status information on checked out files
tag         Add a symbolic tag to checked out version of files
unedit      Undo an edit command
update      Bring work tree in sync with repository
watch       Set watches
watchers    See who is watching a file

(Specify the --help option for a list of other help options)
```

Useful files in my environment

File .tcshrc:

```
> more ~/.tcshrc
...
setenv CVS_RSH ssh
setenv CVSIGNORE CVS
setenv CVSEDITOR emacs
...
```

File .cvsrc:

```
> more ~/.cvsrc
cvs -q
update -d
```

.cvsignore files:

```
> more ~/CPHSTL/WWW/.cvsignore
# This file is auto-generated
#
presentations.php
```

Basic usage

Checkout:

```
> setenv CVSROOT :ext:`whoami`@cphstl.dk:/usr/local/CPHSTL/
> mkdir CPHSTL
> cd CPHSTL
> cvs checkout Report
```

Creating a new directory:

```
> cd Report
> mkdir Our-first-report
> cvs add Our-first-report
```

Commit after some changes:

```
> cd Our-first-report
> emacs cphstl-report.tex&
> cvs update
> cvs commit -m "Created a skeleton" cphstl-report.tex
```

You could also write `cvs commit` and give the message on an editor window that pops up. At `emacs` I stop the session with ctrl-Xctrl-S (save) and ctrl-Xctrl-C (quit without saving).

Advanced usage

Seeing the differences:

```
> cvs -n update
```

`U file`: `file` modified in the repository
`M file`: Your copy of `file` modified
`?  file`: `file` not in the repository
`A file`: `file` added to the repository
`P file`: Sorry, I do not know the meaning
`C file`: You have changed the same lines

Removing a directory:

```
> cd My-test-directory
> setenv files ‘ls‘
> rm -f $files
> cvs remove $files
> cvs commit -m "Removed all files"
> cd ..
> cvs update -P
```

In order not to loose the history, it is better to move the files inside the repository, but then some CVS files have to be edited as well; recommended only for superusers.

Real usage

Recovering an earlier version of a file:

```
> cd Our-first-report
> cvs log cphstl-report.tex
...
----------------------------
revision 1.34
date: 2003/11/03 17:40:10;  author: jyrki;
Now the longtable works
----------------------------
revision 1.33
date: 2003/11/01 13:14:57;  author: cdcurry;
Fixed boxes
----------------------------
...
> cvs -Q update -p -r 1.33 cphstl-report.tex >old.tex
```

Access without a password

Before:

```
> ssh cphstl.dk
jyrki's password:
```

Actually, you have to give your password in connection with every CVS command.

After:

```
> ssh cphstl.dk
Last login: Sun Nov 12 19:29:19 2000 from tyr.diku.dk
```

At `tyr.diku.dk`:

```
> rm -r .ssh .ssh2
> sh ~/CPHSTL/Script/make_ssh_keys.sh
```

At `cphstl.dk`:

```
> rm -r .ssh .ssh2
> sh ~/CPHSTL/Script/get_public_from_tyr.sh
```

Jacob's shell scripts

File make_ssh_keys.sh:

```
> more make_ssh_keys.sh
#! /bin/sh
mkdir .ssh
ssh-keygen -d
chmod go-rwx .ssh .ssh/*
```

File get_public_from_tyr.sh:

```
> more get_public_from_tyr.sh
#! /bin/sh
if [ ! -d .ssh ] ; then
  mkdir .ssh
fi

scp tyr.diku.dk:.ssh/id_dsa.pub .ssh/authorized_keys2_tmp
if [ -f .ssh/authorized_keys2 ] ; then
  cat .ssh/authorized_keys2_tmp >> .ssh/authorized_keys2
else
  cp .ssh/authorized_keys2_tmp .ssh/authorized_keys2
fi

rm  .ssh/authorized_keys2_tmp
chmod go-rwx .ssh .ssh/*
```

Read the manuals!

At some point you have to read a manual, e.g. the Cederqvist. For more information about the CVS, see

`http://www.cvshome.org/docs/`