CS 580 Client-Server Programming
Fall Semester, 2002
Doc 4 CVS

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References

http://www.cvshome.org/

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CVS

Concurrent Versions System

Allows multiple users to work on code

Allows access from multiple machines

Rohan doesn’t currently allow remote cvs access from off campus


Windows Version

http://www.wincvs.org/ client

http://www.cvsnt.org/ server

Rohan

On rohan need /usr/local/bin in your path

This seems to be in the default path
Example of Using CVS

All examples assume you are using Unix

One Time Only

To store your own files you need a cvs root (repository)

This is created once

Command

cvs -d cvsLocation init

Example

cvs -d /home/ma/whitney/cvsRoot init
Where is the Repository?

cvs command need to know the location of the repository

You can
   Add this path to each command or
   Set the CVSROOT environment variable

Example of setting Environment variable

For tcsh or csh in .cshrc or .login file add a line

   setenv CVSROOT /home/ma/whitney/cvsRoot

For other shells you may need to use:

   set CVSROOT='/home/ma/whitney/cvsRoot'
Starting a New Project
Create the directory structure for the project

Example
rohan-> mkdir xmlrpcClient
rohan-> cd xmlrpcClient/
rohan-> cvs import -m "start assn1" cs580/xmlrpcClient yoyo start

No conflicts created by this import

Import Command
• -m
  Initial message for the project

• cs580/xmlrpcClient
  where the files are stored in the repository

• yoyo
  means nothing, can be anything but must be here

• start
  this is the start of the project

After this command the directory is stored in the repository
Creating a shortcut or Module

Remembering cs580/xmlrpcClient is going to be hard so create a short cut or module

Example

rohan-> cd ..

rohan-> cvs checkout CVSROOT/modules
rohan-> cd CVSROOT/
rohan-> ls
~/CVSROOT
CVS/   modules
rohan 40-> vi modules

Add the following line at the end the file

   assn1 cs580/xmlrpcClient

Now to commit the changes

rohan-> cvs commit -m "Added assn1 module" modules
Checking in modules;
/home/ma/whitney/cvsRoot/CVSROOT/modules,v <-- modules
new revision: 1.6; previous revision: 1.5
done
cvs commit: Rebuilding administrative file database

cvs commit updates the repository with all changes in the current project
Now to remove the module files

rohan-> cd ..
rohan-> cvs release -d CVSROOT/
You have [0] altered files in this repository.
Are you sure you want to release (and delete) directory `CVSROOT/': y

cvs release –d directoryName
• Tells cvs we are done with the local copy of this project
• Deletes the local files
• Directory and files are still in cvs main repository
• You can check them out again
Using our assn1 Project
Getting the Files

rohan-> cvs checkout assn1
rohan-> cd assn1
rohan-> ls
CVS/

cvs checkout moduleName

   Makes a local copy of the files in the give module
Adding a new File

Create a file called client.java using an editor

rohan-> cvs add -m "main client file" client.java

rohan-> cvs commit -m "added main"
cvs commit: Examining .
RCS file:
/home/ma/whitney/cvsRoot/cs580/xmlrpcClient/client.java,v
done
Checking in client.java;
/home/ma/whitney/cvsRoot/cs580/xmlrpcClient/client.java,v  <--
client.java
initial revision: 1.1
done

cvs add
   Tells cvs about the file

cvs commit
   Commits all changes in the current project to repository
   Can add file name to commit only a single file
Making Changes

We can now make more changes to the file

At anytime we can commit the files

rohan-> cvs commit -m "added foobar method"
cvs commit: Examining .
Checking in client.java;
/home/ma/whitney/cvsRoot/cs580/xmlrpcClient/client.java,v <--
client.java
new revision: 1.2; previous revision: 1.1
done
Getting the log of Changes

We can view the log of changes made to the project

rohan-> cvs log
cvs log: Logging .

RCS file:
/home/ma/whitney/cvsRoot/cs580/xmlrpcClient/client.java,v
Working file: client.java
head: 1.2
branch:
locks: strict
access list:
symbolic names:
keyword substitution: kv
total revisions: 2; selected revisions: 2
description:
main client file

----------------------------
revision 1.2
date: 2002/09/12 22:45:17; author: whitney; state: Exp; lines: +2 -0
added foobar method

----------------------------
revision 1.1
date: 2002/09/12 22:44:16; author: whitney; state: Exp;
added main
Comparing Files

rohan-> cvs diff -r 1.1 -r 1.2 client.java
Index: client.java
==================================================================
RCS file:
/home/ma/whitney/cvsRoot/cs580/xmlrpcClient/client.java,v
retrieving revision 1.1
retrieving revision 1.2
diff -r1.1 -r1.2
1a2,3
> // main
> // more code

The diff command shows the difference between versions a file
Deleting the local Copy

We can even delete the local copy of the files

This tends to make novices nervous

rohan-> cd ..
rohan-> cvs release -d assn1/
You have [0] altered files in this repository.  
Are you sure you want to release (and delete) directory `assn1/': y
What is the Point?

So far we have done a lot of work without any benefit

We can get back previous versions!

The -D flag for checkout

We can tell cvs to give us the lasted version of a project before a given time

rohan-> cvs checkout -D yesterday assn1
rohan-> cvs checkout -D "2002-9-11 20:00" assn1
rohan-> cvs checkout -D "2002-9-11" assn1
rohan-> cvs checkout -d "1 hour ago" assn1

The –r flag

We can checkout by version number

rohan-> cvs checkout -r 1.1 assn1
More Features

cvs has more features

Read the manual to find out about

• Abbreviations for commands
• Branching
• Merging
The Carrot

The source code in lectures is available via cvs

On rohan

\texttt{cvs -d \~whitney/cs580/cvsroot checkout xmlRpcBasic}

gives you the code in Doc 2

\texttt{cvs -d \~whitney/cs580/cvsroot checkout screeningTestCode}

gives you exam questions and code you can run to test the answers