

# CVS through SSH

1.0

*This How-To describes the steps necessary to configure an SSH enabled CVS connection. It is recommended to configure an SSH enabled CVS connection to work with Apache code repositories.*

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## 1 Intended audience

This How-to is aimed at developers who have been granted committer access to CVS repositories for particular projects.

## 2 Purpose

Using SSH to access CVS repositories is recommended for security reasons. By configuring CVS to work with remote repository using private/public SSH keys you'll be able to run CVS commands without a need to enter your password every time you need access to CVS through SSH.

## 3 Prerequisites

- Account on the local machine.
- Committer access to the project(s). *This also imply having account on the CVS host machine.*
- Cygwin - a Unix environment for Windows systems. You can get it [here](#). *Not required for Linux/\*nix users.*
- A CVS GUI application (for Windows users only), e.g. WinCVS. *It is not required, but can be very useful.*

### Note:

If you are behind a firewall check that you can communicate through the 22 port. For anonymous access you will need 2401 one.

## 4 Steps

How to proceed.

### 4.1 Terms

#### SSH

Secure Shell. See [OpenSSH](#)

#### CVS

Concurrent Version System See [CVS Home Page](#)

### Note:

\$ represents local, % remote machine.

### 4.2 Setting up domain users

### Note:

This step is necessary only for Windows users. Linux users can happily skip this section and pass to [Setting up SSH access](#) section

If you are a domain user then you should be added to Cygwin users list (See [cygwin-dir]/etc/passwd).

- Start Cygwin, then enter following commands:

```
$ whoami
administrator
$ mkgroup -d > /etc/group
```

```
$ mkpasswd -d | grep 'userxxx' >> /etc/passwd
$ exit
```

**Note:**

Replace 'userxxx' by your account name

- Start Cygwin/shell again and check that everything's Ok:

```
$ whoami
userxxx
```

## 4.3 Setting up SSH access

Start Cygwin/shell, then enter:

```
$ ssh-user-config
Shall I create an SSH1 RSA identity file for you? (yes/no) no
Shall I create an SSH2 RSA identity file for you? (yes/no) (yes/no) no
Shall I create an SSH2 DSA identity file for you? (yes/no) (yes/no) yes
Generating /home/userxxx/.ssh/id_dsa
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Do you want to use this identity to login to this machine? (yes/no) yes
Adding to /home/userxxx/.ssh/authorized_keys2

Configuration finished. Have fun!
```

Now you have configured SSH on your machine. Next you have to setup access to the CVS machine.

**Warning:**

Having an empty passphrase isn't recommended for security reasons. See `ssh-agent` documentation on how to configure automatic passphrase retaining.

## 4.4 Setting up passphrase access

Perform the following:

```
$ scp ~/.ssh/id_dsa.pub userxxx@cvs.apache.org:.
$ ssh -l userxxx -L 2401:localhost:2401 cvs.apache.org
% mkdir ~/.ssh
% chmod 700 ~/.ssh
% cat ~/id_dsa.pub >> ~/.ssh/authorized_keys2
% rm ~/id_dsa.pub
% chmod 600 ~/.ssh/*
% exit
```

**Note:**

Note, that the account name on CVS machine can differ from your local account name.

Check that your configuration is correct:

```
$ ssh userxxx@cvs.apache.org
```

**Note:**

If this command doesn't work then it can mean that you have an old version of SSH. In this case try `ssh -l userxxx cvs.apache.org`. Run `ssh --help` to get all available options.

If now you are logged in to the CVS machine without entering the password then everything's Ok.

## 4.5 Getting the project from CVS

Now you are ready to get a project from CVS using SSH connection.

E.g. how it is done using Cygwin/shell

```
$ export CVS_RSH=/bin/ssh
$ cvs -d :ext:userxxx@cvs.apache.org:/home/cvs co xml-cocoon2
```

## 4.6 How to setup WinCVS

- Add ssh.exe directory to your system PATH environment variable. Say:  
`C:\>set PATH=%PATH%;C:\cygwin\bin`
- Add `CVS_RSH=ssh` environment variable

Start WinCVS, then:

- From the main menu select **Admin**
- Then select **Preferences**
- In the dialog that comes up:  
Set the `CVSROOT` to `userxxx@cvs.apache.org:/home/cvs`
- Set the Authentication to SSH Server
- Click Ok

## 4.7 References

You can find more on CVS, SSH and WinCVS here:

- [CVS Home Page](#)
- [OpenSSH](#)
- [Cygwin Home Page](#)
- [WinCVS over SSH](#)