

# Using Subversion for Websites

AzPHP  
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# Purpose for Revision Control

- Coordinate Multiple Developers
- Code History
- Code Distribution
- Track Changes
- Synchronize Between Environments
- Organize Development

# Other Revision Control Tools

- CVS (Concurrent Versions System)
- Source Safe
- GIT
- Darcs
- Arch
- SVK

# Access Methods

- HTTP(S)
  - Apache 2 module (DAV)
- svnserve
  - similar to pserver in CVS
- svn+ssh
  - tunnel the request to the server via ssh then use svnserve locally

# Major Concepts

- The version numbers are for the entire repository not individual files
- CVS lacked copy and move – SVN uses them for many things
- SVN handles binary files
- SVN supports file attributes
- SVN can store symlinks

# Common Commands (mostly)

- svn checkout (co)
- svn update (up)
- svn commit (ci)
- svn info
- svn status (stat)
- svn copy
- svn move
- svn diff
- svn add
- svn switch
- svn remove (rm)
- svn list
- svn merge
- svn revert
- svn log
- svn blame
- svn import

# Install Debian/Ubuntu

- apt-get install subversion
- Setup your Access method
  - for svn+ssh do nothing
  - for http setup mod\_dav
  - for svnserver setup xinetd

# Setup SVN+SSH

- Ok, not really "nothing"
- setup passphraseless ssh keys between client and server
  - <http://eric.thelin.org/tools/>
    - `grant.rsa.login.sh`
    - `revoke.rsa.login.sh`

# Setup Apache2 Dav

- `apt-get install libapache2-svn`
- `cd /etc/apache2/sites-available/`
- `cp default subversion`
- edit `./subversion` to copy details from `/etc/apache2/mods-enabled/dav_svn.conf`
- `a2ensite subversion`

# Setup Apache2 Dav (cont)

- <Location /svn>
  - DAV svn
  - SVNPath /svn
  - AuthType Basic
    - AuthName "Subversion Repository"
    - AuthUserFile /etc/apache2/dav\_svn.passwd
- Create a user
  - sudo htpasswd -cm /etc/apache2/dav\_svn.passwd <username>
- sudo chown -R www-data:www-data /usr/local/svn

# Setup svnserve

- apt-get install xinetd
- Create /etc/xinetd.d/svnserve:
- # default: on
- # Subversion server
- 
- service svnserve
- {
- socket\_type         = stream
- protocol           = tcp
- user                = svnadmin
- wait                = no
- disable             = no
- server              = /usr/bin/svnserve
- server\_args        = -i
- port                = 3690
- }

# Create a Repository and Project

- On Server
  - PROJ=my\_project
  - svnadmin create -fs-type fsfs /usr/local/svn/[project]
  - svn mkdir -m 'initial branches'  
file:///usr/local/svn/\$PROJ/trunk  
file:///usr/local/svn/\$PROJ/tags  
file:///usr/local/svn/\$PROJ/branches

# Test The Project

- On Client
  - svn co  
svn+ssh://user@my.server.com/usr/local/svn/\$PROJ/trunk \$PROJ
  - echo "foo" > bar.txt
  - svn add bar.txt
  - svn ci -m 'blah blah' bar.txt

# Create A Tag or A Branch

- From a working directory (checkout)
  - `svn copy . svn+ssh://user@my.server.com/usr/local/svn/$PROJ/tags/tag1`
  - `svn copy .  
svn+ssh://user@my.server.com/usr/local/svn/$PROJ/branches/branch1`
- From a somewhere else
  - `svn copy svn+ssh://user@my.server.com/usr/local/svn/$PROJ/trunk  
svn+ssh://user@my.server.com/usr/local/svn/$PROJ/tags/tag1`
  - `svn copy svn+ssh://user@my.server.com/usr/local/svn/$PROJ/trunk  
svn+ssh://user@my.server.com/usr/local/svn/$PROJ/branches/branch1`

# Resources

- <http://svnbook.red-bean.com>
  - THE book online
- <http://subversion.tigris.org>
- [http://en.wikipedia.org/wiki/Subversion\\_\(software\)](http://en.wikipedia.org/wiki/Subversion_(software))
- <http://tinyurl.com/2t2dhd>
  - svn cheatsheet
- <http://svnrepository.com/>
  - svn hosting