

Tutorial on Subversion

Subversion Project Homepage

<http://subversion.tigris.org/>

Motivation

- Why version control at all?
 - Collaboration
 - Repository vs working copy
 - Know who to blame
 - Roll back
 - Oops, I think I just broke something
 - No excuses if a demo fails
 - Disaster relief
 - `rm -fr *` Enter AAAAAAAAAAAAAAAAAAARGH!

Basic Concepts

- Repository
 - A place that holds all objects and histories
 - Access methods
 - File system [file://URL](#)
 - SSH tunneling [svn+ssh://URL](#)
 - Proprietary protocol [svn://URL](#)
 - Standard protocols [http://URL](#), [https://URL](#)
- Working copies
 - Local, private copies of stuff in repository

Typical Work Cycles

1. Check out a local copy from repository
2. Hack hack hack...
 - Create/move/edit files/directories
3. Update working copy
 - Sync with repository
4. Go to step 2 if necessary
5. Commit changes into repository

Common Practices

- Project directory layout
 - trunk: cutting-edge stuff (HEAD)
 - tags: usually for check points or histories
 - branches: for massive reorganizations
- Use tags as much as you can!
 - Tagging is cheap because of copy-on-write
- Subversion is really a distributed file system

Installation & Initialization

- Most Linux distributions have pre-built packages, typically called “subversion”
 - Gentoo: `emerge subversion`
 - Ubuntu: `apt-get install subversion`
 - Fedora Cores: `yum install subversion`
- Create a repository
 - `svnadmin create --fs-type bdb /foo/bar`

Basic Subversion Commands (1/2)

- add: `svn add foo`
- cat: `svn cat svn://foo`
- checkout (co): `svn co svn://host.com/dir/proj`
- commit (ci): `svn commit -m "log message"`
- copy (cp): `svn cp svn://foo svn://bar`
- delete (rm): `svn rm svn://foo`
- diff: `svn diff -r123 foo`
- import: `svn import svn://foo -m "import msg"`

Basic Subversion Commands (2/2)

- info: `svn info`
- list (ls): `svn ls svn://foo`
- log: `svn log foo`
- mkdir: `svn mkdir foo`
- move (mv): `svn mv svn://foo svn://bar`
- resolved: `svn resolved foo`
- status: `svn status -u`
- update (up): `svn up`

Windows Explorer Interface

- TortoiseSVN
 - <http://tortoisesvn.tigris.org/>
 - Nicely integrated into Microsoft Windows GUI Shell

Advanced Topics

- cvs2svn <http://cvs2svn.tigris.org/>
 - `cvs2svn -q --dump-only --dumpfile /tmp/dumpfile /cvs/repo/foo`
 - `svnadmin load /svn/repo/bar < /tmp/dumpfile`
- Back up an entire repository
 - `svnadmin -q dump /svn/repo/foo > /tmp/dumpfile`