

SVN code server for AliRoot

P.Hristov

18/10/2007

Why Subversion?

- Because the Root team uses it 😊
- Because it has many advantages and improvements (see [the presentation of Fons](#))
 - It is a free product designed to replace CVS
 - It is used by many major projects
 - It fixes many design flows and adds improved functionality

Subversion: Features

- <http://subversion.tigris.org/>
- Most CVS features
- Directory versioning
- Meta data
- Atomic commits
- Branching and tagging are cheap
- Designed for the network
- Better binary file handling
- Layered library design
- Apache network serve with WebDAV/DeltaV protocol, standalone server option
- Versioning of symbolic links
- DB or plain file repository implementation
- **Seems interesting!**

Proposal

- Convert the AliRoot CVS repository to Subversion
 - Organization
 - AliRoot
 - trunk
 - branches
 - Tags
 - AliEn
 - ...
 - Features:
 - copyright notice automatically inserted-end-of-line style: native (to deal with Ctrl^M on Windows)
- Keywords substitution: \$Id\$ No logs
- Offline Bible and tutorial slides included
- Strict lock for documentation and binary files
- Pointer to the Root version (using the “externals” feature)
- Compilation, coding conventions, run tests as hooks

What is done?

- Conversion of the repository:
 - Download cvs2svn from <http://cvs2svn.tigris.org>
 - install it
 - make a local copy of the repository from a tarball (in /Users/hristov/cvsroot/AliRoot)
 - create /Users/hristov/svnroot
 - convert using the following command:

```
cvs2svn --fs-type=fsfs --default-eol=native --fallback-encoding=646 --retain-conflicting-attic-files --force-branch=v4-06-Release --force-branch=v4-03-03 --force-branch=NewIO-01 --force-branch=ALICE --force-branch=Initial --force-branch=START --force-branch=Alice -s /Users/hristov/svnroot/AliRoot /Users/hristov/cvsroot/AliRoot
```
 - copy it to /soft/svnroot/AliRoot on alisoft
 - chown -R cvsadmin.cvsadmin /sof/svnroot/AliRoot

What is done?

- Installation of Apache2 on alisoft.cern.ch (current release 2.2.6) from <http://www.apache.org>
 - Configuration
 - `./configure --prefix=/usr/local/apache2 --enable-dav --enable-so --enable-maintainer-mode --enable-ssl --enable-deflate`
 - `make; make install`

What is done?

- Installation of subversion (current release 1.4.5) from <http://subversion.tigris.org>
 - Configuration: it is important to use apr and apr-util from the Apache2 distribution, otherwise you will get the following error
svn: PROPFIND request failed on '/AliRoot'
svn: Can't set position pointer in file
'/soft/svnroot/AliRoot/db/revs/21008': Invalid
argument(more information here: <http://www.red-bean.com/pipermail/svnbook-dev/2006-July/002204.html>)
./configure --with-pic --with-apr=/usr/local/apache2 --with-apr-util=/usr/local/apache2
 - make; make check; make install

What is done?

- Configuration of the server

- edit /usr/local/apache2/conf/httpd.conf

Check that the lines

```
LoadModule dav_svn_module    modules/mod_dav_svn.so
```

```
LoadModule authz_svn_module  modules/mod_authz_svn.so
```

are present.

Add at the end of the file the description of the repository:

```
# SVN
```

```
<Location /AliRoot>
```

```
DAV svn
```

```
SVNPath /soft/svnroot/AliRoot
```

```
</Location>
```


Test

- (Re)start the httpd daemon:
`/usr/local/apache2/bin/apachectl stop`
`/usr/local/apache2/bin/apachectl start`
- Test it:
[~] `svn ls http://alisoft.cern.ch/AliRoot`
branches/
tags/
trunk/
- It works 😊

Plans

- Complete the setup of the server (thanks to Fons we have most of the pre-commit and post-commit hooks)
 - Features
 - Permissions
 - Cleanup
- Install browsing and monitoring tools: (ViewVC, etc.)
- Extensive tests and [education](#)
- Lock CVS, convert it once again and continue the development in SVN