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Version control with subversion

A short introduction

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Outline

- What is version control?
- Aspects of Subversion
- Subversion basics
- Subversion setup in Geography
- Overview of some Subversion clients
- Demonstration

What is version control

Revision control

From Wikipedia, the free encyclopedia

(Redirected from [Version control](#))

Revision control (also known as **version control**) is the management of multiple revisions of the same unit of information. It is most commonly used in engineering and software development to manage ongoing evolution of digital documents like application source code, art resources such as blueprints or electronic models and other critical information that may be worked on by a team of people. Changes to these [documents](#) are identified by incrementing an associated number or letter code, termed the "revision number", "revision level", or simply "[revision](#)" and associated historically with the person making the change. A simple form of revision control, for example, has the initial issue of a drawing assigned the revision number 1. When the first change is made, the revision number is incremented to 2 and so on.

[Software tools for revision control](#) are increasingly recognized as being necessary for most [software development](#) projects.

What is version control?

Version control is a methodology in which changes between different versions of your files are logged (and stored):

- Content (what has changed?)
- Date (when did it change?)
- Reason (why has it changed?)
- Author (who changed it?)

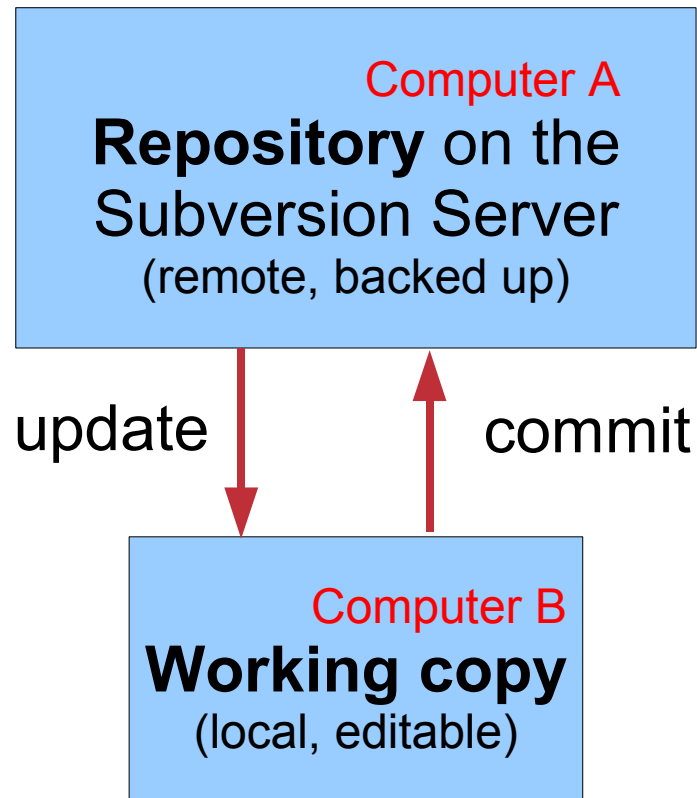
Advantages of version control

- Direct advantages:
 - File (and so project) history
 - Can recover older versions
 - Backup of project
- Indirect advantages
 - Dissemination
 - Collaboration between different authors
- For Source Code:
 - Aids debugging (can compare versions)

Aspects of subversion

- Centralised version control system
- Developed as a successor to CVS
 - very similar to CVS
 - addresses the biggest shortcomings of CVS
- Web link: <http://subversion.tigris.org>
- Can communicate via http (WebDAV)
 - access to files is possible via a web browser
 - gives us very good control of users
 - who can access what?

Subversion basics



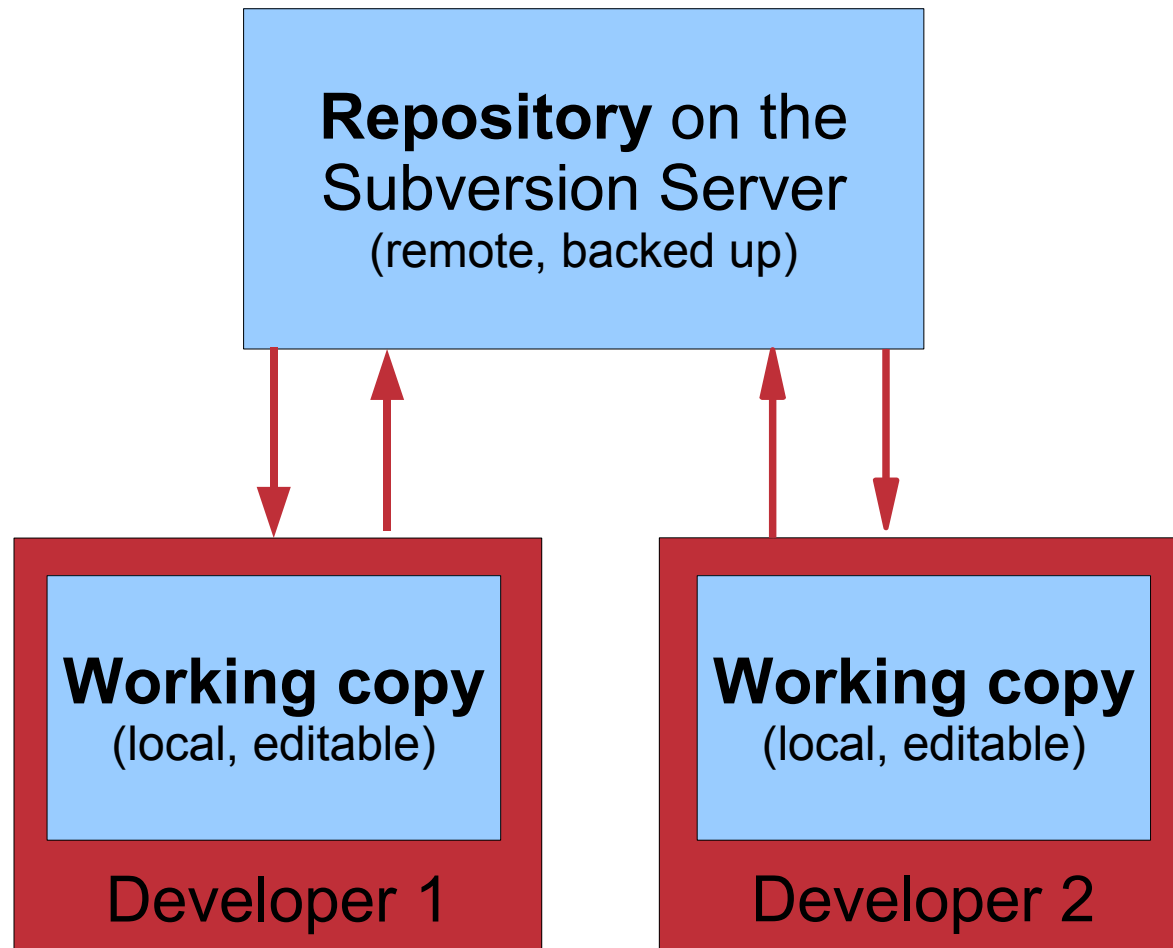
Subversion basics

- Day to day work:
 - Send your modifications: **commit**
 - Receive modifications by others: **update**
 - View history: **log**
- Setup of the working copy
 - **checkout**
- Setup of the repository
 - **import** (Note, it imports **into** the repository)

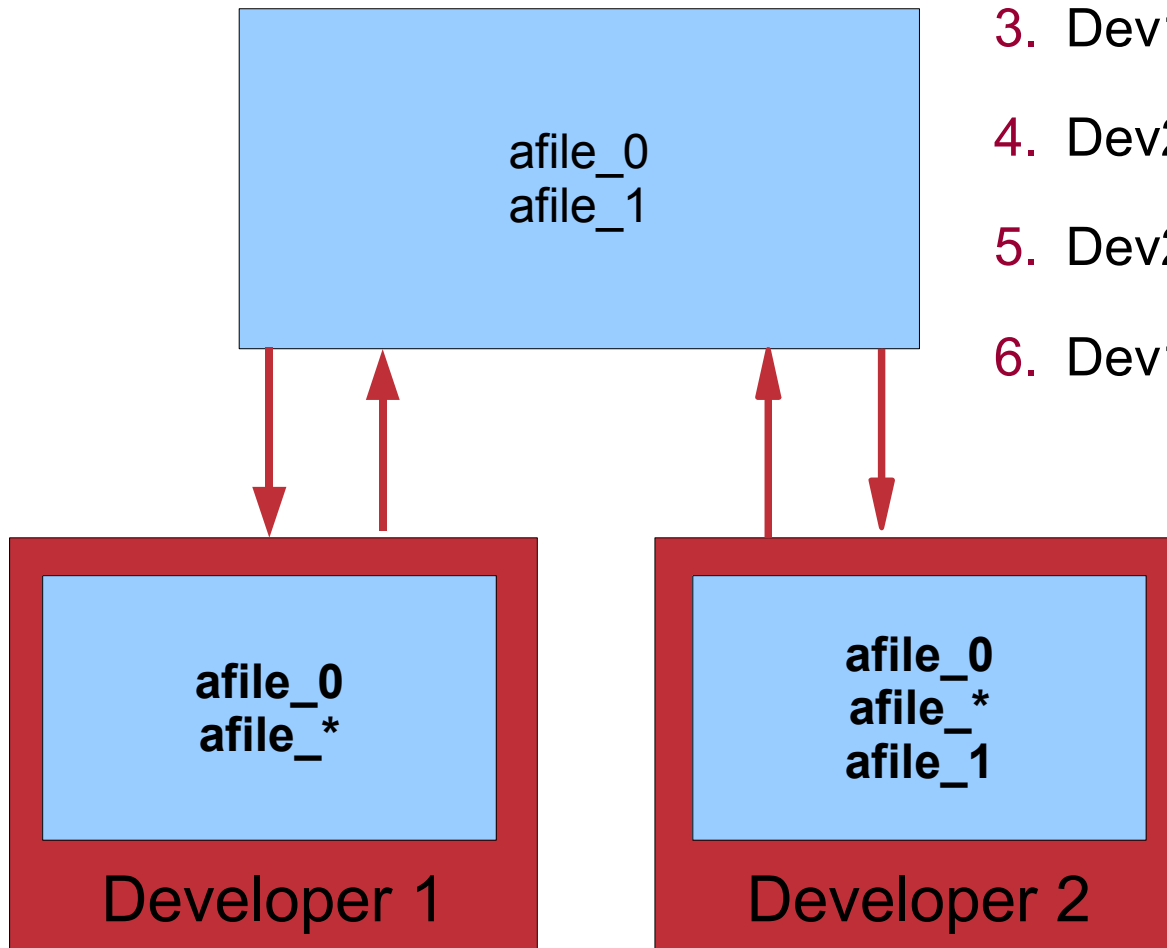
Subversion basics

- Operations on files/folders:
 - Add: **add**
 - Remove: **del**
 - Check changes: **diff**
 - View history: **log**
 - Rename: **move**
 - Undo: **revert**
- More advanced
 - Resolve conflicts: **resolved**
 - Apply changes between branches: **merge**

Subversion basics

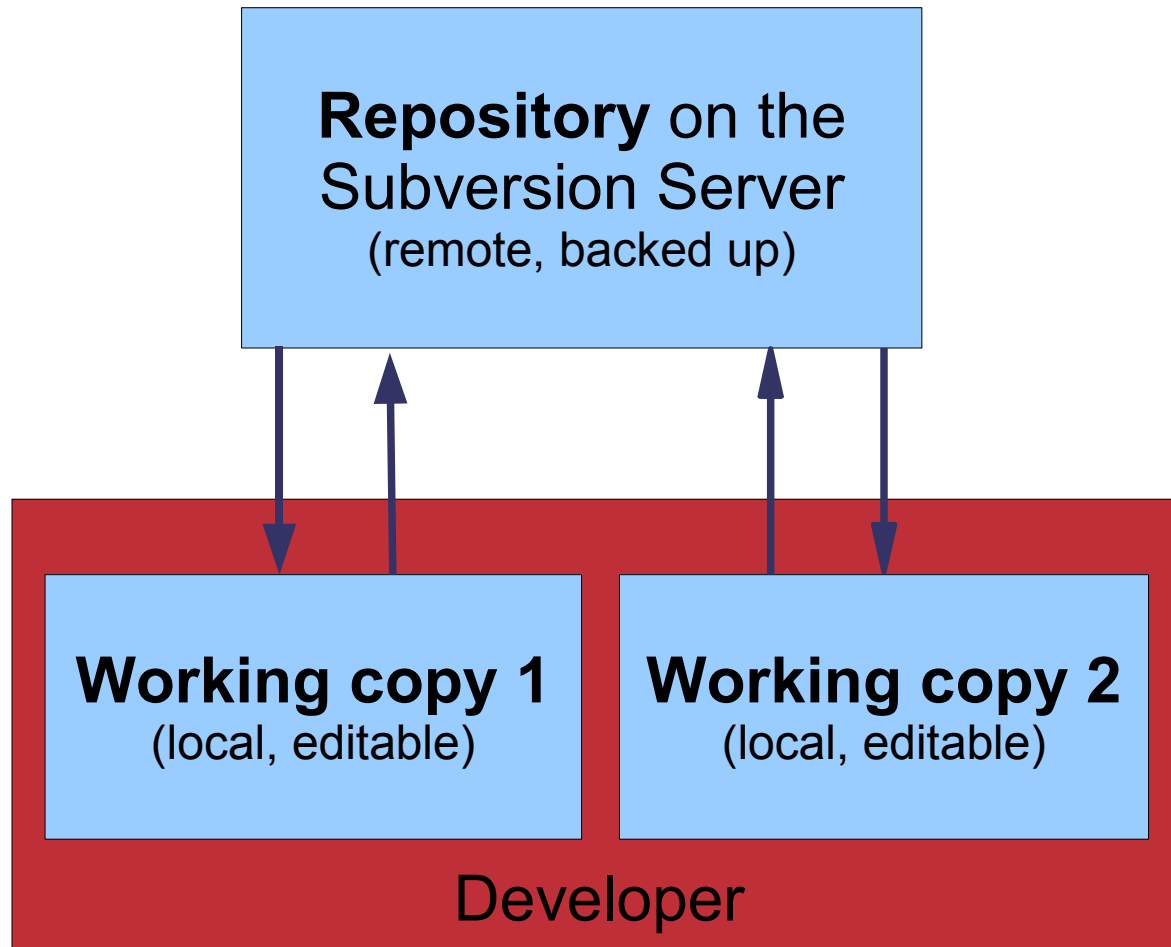


Potential conflicts



1. Dev1 checks out afile_0
2. Dev2 checks out afile_0
3. Dev1 modifies afile
4. Dev2 modifies afile
5. Dev2 commits afile
6. Dev1 commits / updates

Multiple working copies



Subversion setup in Geography

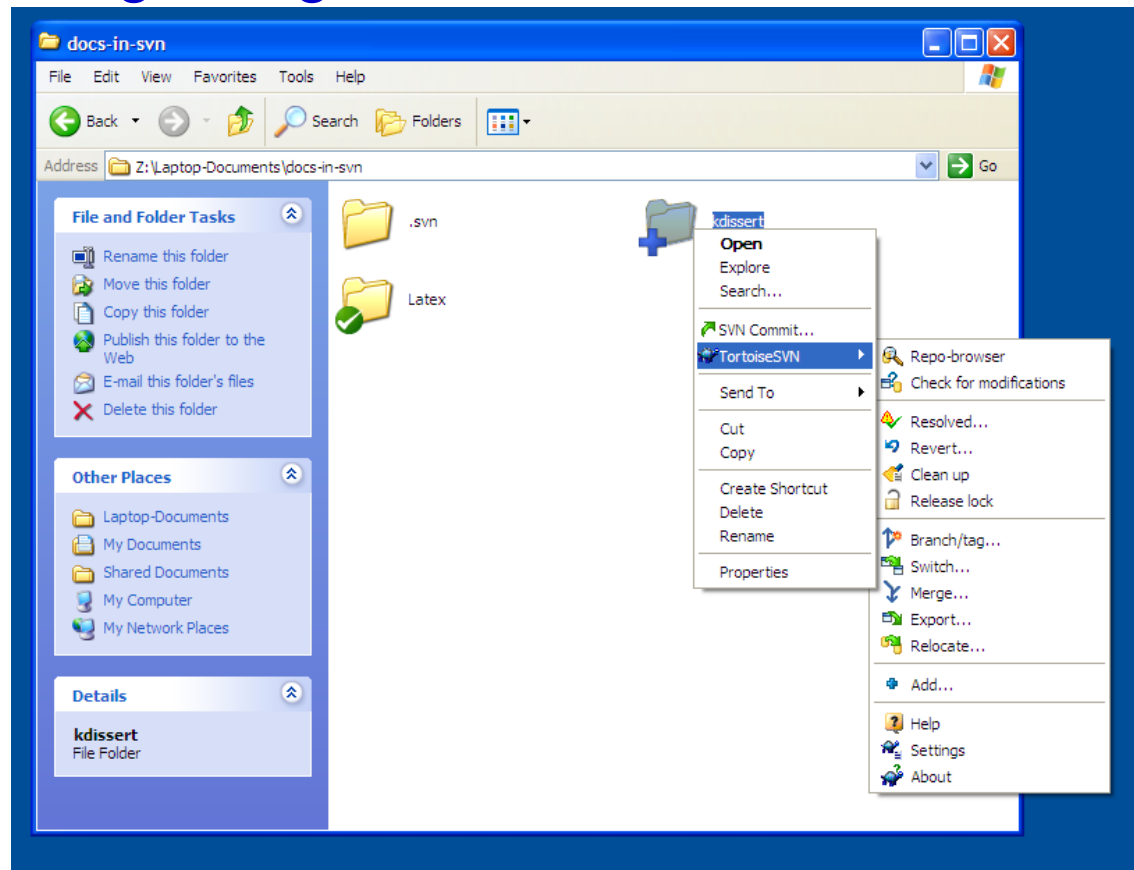
- Subversion server: `source.ggy.bris.ac.uk`
- Accessible via WebDAV:
 - <http://source.ggy.bris.ac.uk/subversion/myproject>
 - login / password
- Backed up daily
- Subversion web front end
 - <http://source.ggy.bris.ac.uk/websvn>
- Wiki:
 - <http://source.ggy.bris.ac.uk/>

Overview of some Subversion clients

- Microsoft Windows:
 - tortoise SVN
 - rapid SVN
 - eSVN
 - svn (DOS command line)
- Linux
 - rapidSVN
 - esvn
 - svn (command line)
 - kdesvn
 - ksvn

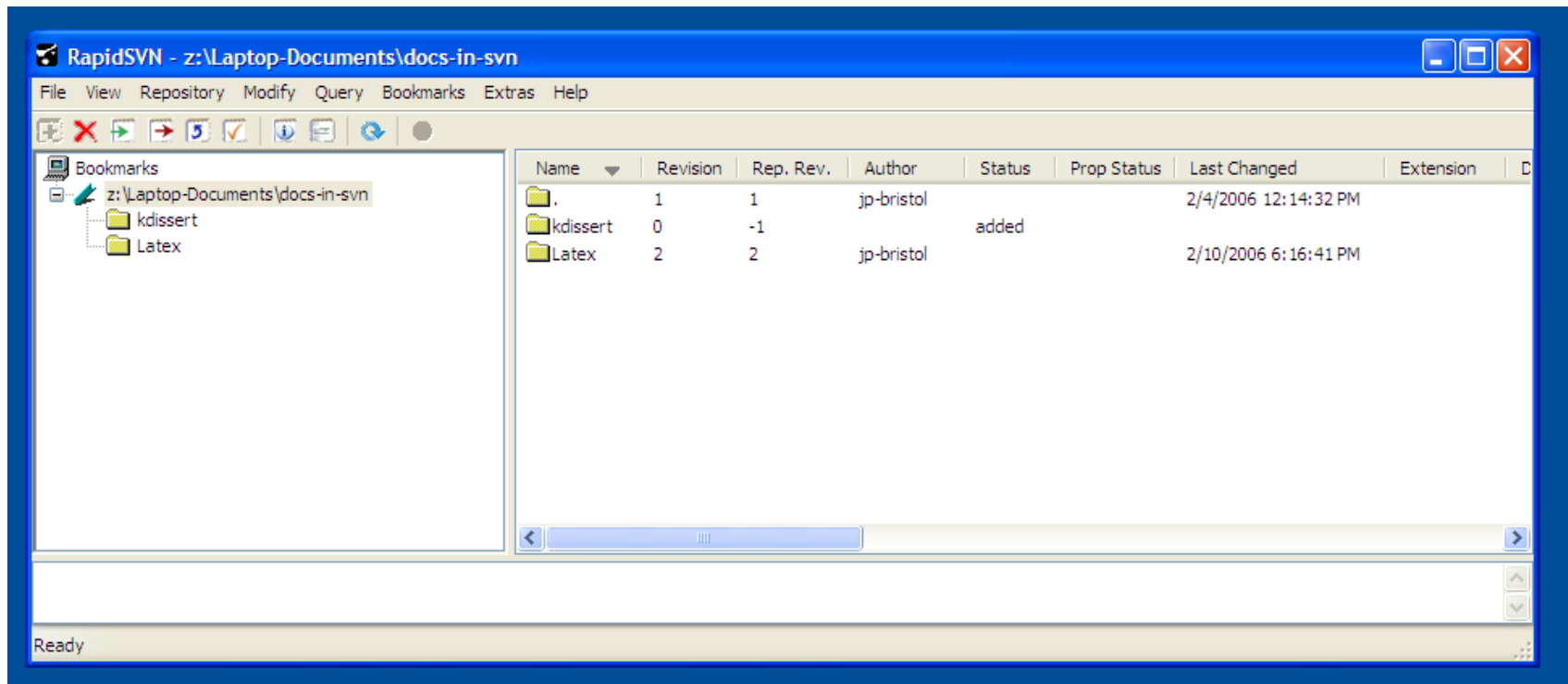
TortoiseSVN

- Microsoft Windows Explorer shell extension
- <http://tortoiseSVN.tigris.org>
- Screenshot:



RapidSVN

- Standalone subversion client (cross-platform)
- <http://rapidSVN.tigris.org>
- Screenshot:



eSVN

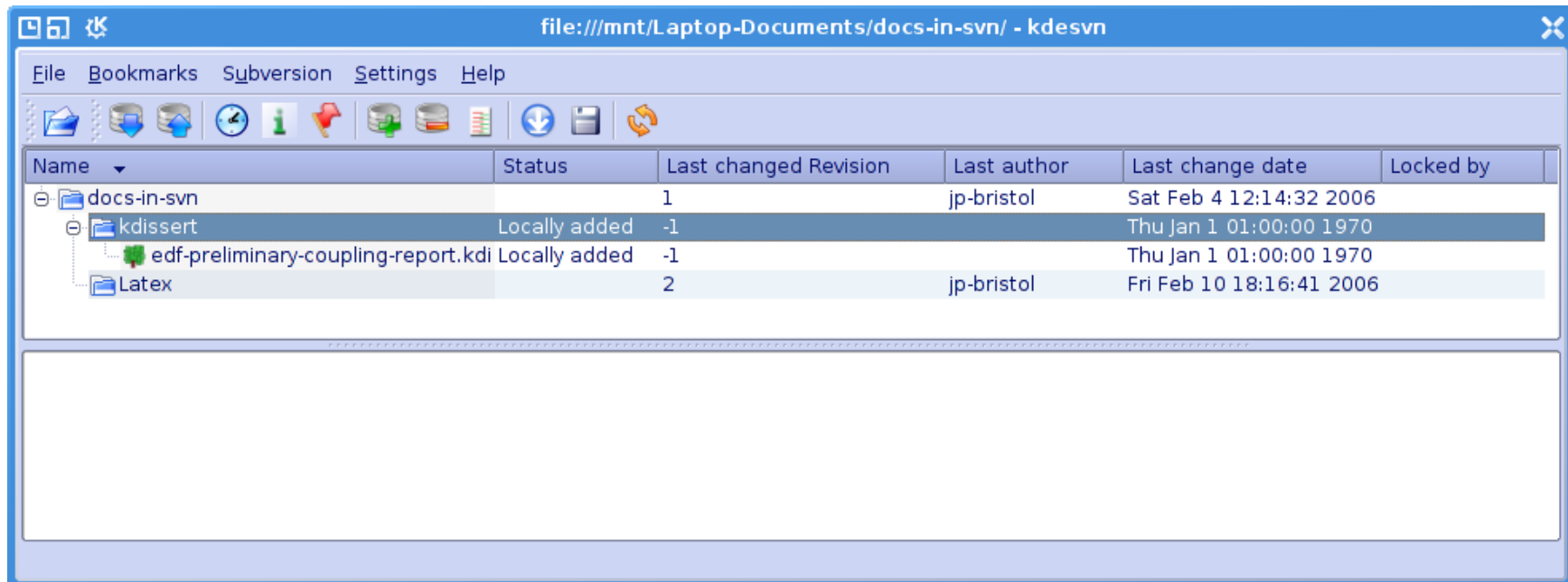
- Standalone subversion client
- <http://esvn.umputun.com/>
- Cross-platform (Windows, Linux, Mac OS X)
- Similar to rapidSVN

svn

- Command line client
- <http://subversion.tigris.org>
- Mainly for Linux/Mac OS X
- Available for the DOS command prompt in Windows

kdesvn

- Standalone subversion client for the K Desktop Environment
- <http://www.alwins-world.de/programs/kdesvn/>
- Screenshot:



A sample project to practise on

- <http://source.ggy.bris.ac.uk/subversion/myproject>
- Use the login and password you have been given
- If you don't have an account, use `guest/iamguest`

- It contains some “Hello World!” files that you can
 - **checkout**
 - modify
 - **commit, log, diff** etc ...
- You can also add some practice files of your own

To go further...

- wiki: <http://source.ggy.bris.ac.uk>
- Subversion red Book:
 - <http://svnbook.red-bean.com/>
- Best of all—have a go! Once started you will not look back :-)
- and ask for help if needed...