

Working with Subversion

The *Subversion source code control system* provides a versioned file store for programmers. Source code control is one of the fundamental requirements for working collaboratively on software projects. There are many flavours available; *Subversion* is modern and relatively user-friendly and with good tool support. It is the system adopted by *The ASCOM Initiative*.

Working in Subversion is easy, provided a few things are understood. The three main things to remember are:

1. Commit only source code. Never commit binaries, executables or build artifacts¹.
2. Your working copy is managed by subversion and should not be treated like a normal Windows folder. Never delete, rename or copy files in Windows Explorer, always use the subversion equivalents to perform file operations in a working copy.
3. Understand the Subversion Workflow and how it affects other developers.

The first two items are fairly self-explanatory, item 3 needs further explanation.

Figure 1 on page 2 shows the general workflow. Most of this should be fairly straightforward, where confusion sometimes arises is the need to *update* a working copy. A single developer working alone strictly has no need to use the update command, but it is a good working habit and should be adopted as normal practice.

The *SVN Update* command merges changes from the server (i.e. from other developers) into your local working copy. You need to do this so that:

- You don't overwrite other people's changes
- You don't end up modifying the same section of a file as someone else, at the same time.
- You are always working with an up-to-date copy of the solution.
- If there are any conflicts, these get resolved promptly as soon as possible after they happen, while everyone can still remember what they did and why.

Update your working copy at least daily or at the start of each work session and immediately before committing any code.

Make frequent, small commits. For example, you might add code related to a single bug fix or feature and then commit that code before moving on to the next bug or feature. This is friendlier to other developers and easier to understand when you need to review a revision history. When committing, always include a comment that describes what you did. If you worked on a bug or task (e.g. from Jira) then include the issue ID ('ASCOM-123') in the commit comments.

For further information about Subversion, please refer to the comprehensive user guide, which you can find at <http://svnbook.red-bean.com/>

¹ Build Artifacts are defined as anything that is output by a compiler or tool and can therefore be regenerated from the source code. Actually, there are exceptions to this rule and sometimes it is acceptable, even necessary, to commit items that might be considered Build Artifacts, but this is a good general rule of thumb.

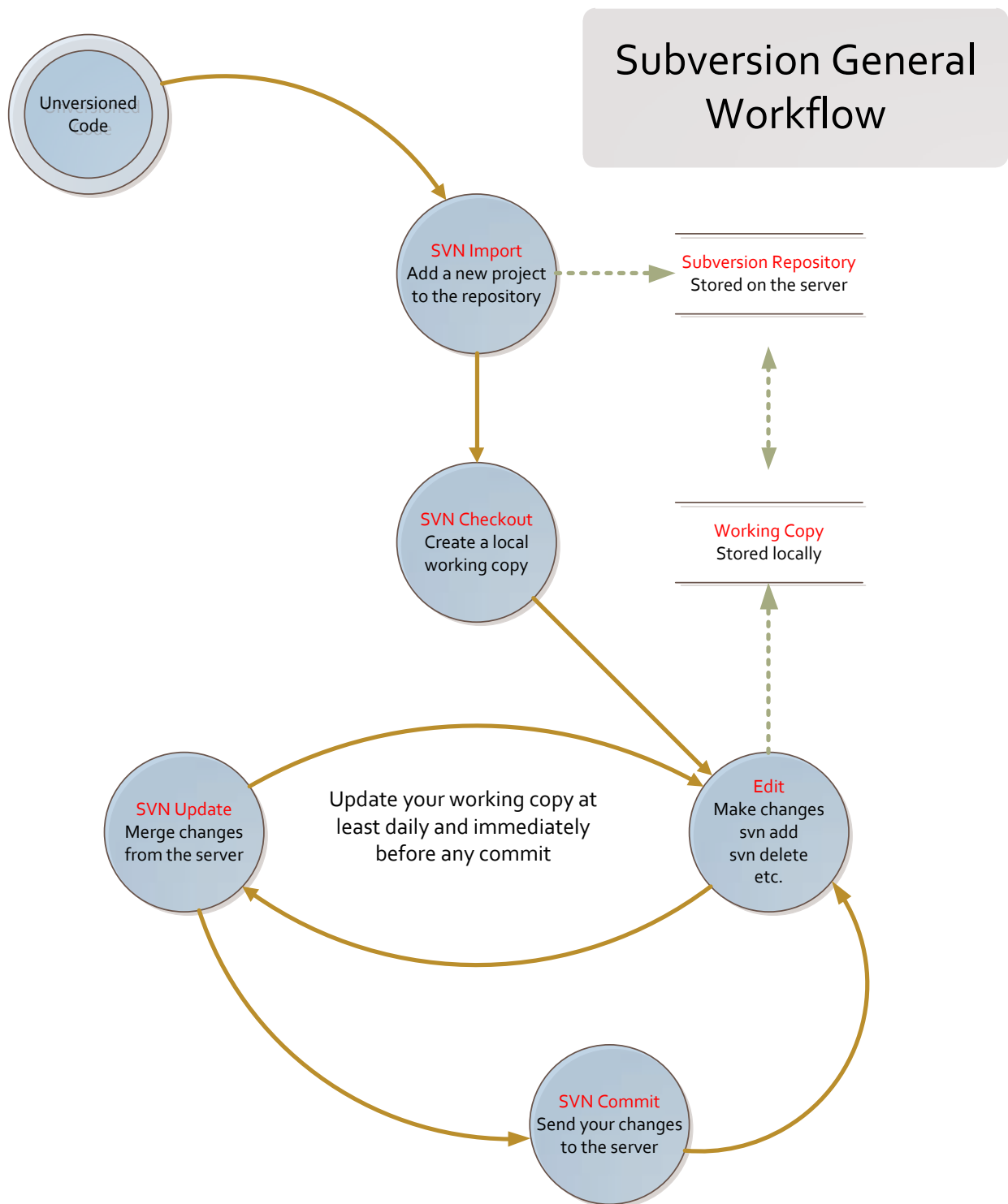


Figure 1 Subversion General Workflow