

# Subversion Guideline

Subversion is a compelling replacement for CVS.

<http://subversion.tigris.org/> | <http://svnbook.red-bean.com/>

---

## Repository Layout

Root directories are projects. Each project has the subdirectories trunk, branches, and tags. E.g.:

- **crosswork** – Project with the name CrossWork
  - **branches** – Copies of trunk used for e.g. large bugfixes or other stuff that should not go into trunk for the time being.
  - **tags** – Frozen copies of trunk, no work done there.
  - **trunk** – Latest code, most work is done in this directory.
- **mabe** – Project MaBE
  - **branches**
  - **tags**
  - **trunk**
- ...

Further Information:

- <http://svnbook.red-bean.com/en/1.1/ch04s07.html#svn-ch-4-sect-7.1>

---

## Update

Update early, update often!

- **Before modifying** -- Ensures you work on the latest version.
- **While modifying** -- E.g. every few hours. Ensures seamless integration, keeps merging problems to a minimum.
- **Before committing** -- Ensures trunk stays in a working shape.
- **After committing** -- Prevents mixed revision working copy.

Further Information:

- [http://msepc10.scs.ad.cs.cmu.edu/sapphirewiki/index.php?title=Repository\\_Usage\\_Guidelines](http://msepc10.scs.ad.cs.cmu.edu/sapphirewiki/index.php?title=Repository_Usage_Guidelines)
- <http://subversion.tigris.org/faq.html#hidden-log>

---

## Commit

Commit early, commit often!

- **One conceptual change at a time** -- No matter if only one character has been modified
- **Source code should at least compile** -- Ensures other people are not hindered during work.
- **Write a commit message** -- Use prefixes to indicate what has happened. Provide information WHAT and WHY it happened.
  - **+** – Something is added (e.g. a method, comment, ...),
  - **O** – modified,
  - **-** – removed.
  - **TAG** – When creating a tag in the repository.
  - **BRANCH** – When creating a branch in the repository.
  - **MERGE X:Y from A to B**
    - X** ... Revision number of the last time the copies were in sync (start of branch or last merge)
    - Y** ... Revision number to which the merge applies (typically the latest revision)
    - A** ... Source directory (typically a directory from /branches)
    - B** ... Target directory (typically trunk).

Example commit message:

+ Comments in DataReader according to coding style

or

o refactoring of MrpData: now data source is easily exchangeable

Further Information:

- <http://www.jspwiki.org/wiki/CommitEarlyCommitOften>
- <http://oms.ars.usda.gov/manual/VersionControl.ppt>

---

## Tags

- Use the tag name to keep track of important events.
- Treat tags as read-only copies.
- Each tag is a copy of /trunk into /tags.
- All tags have a prefix **YYYY-MM-DD**.
- Don't use spaces.

Example tag directory name:

2005-07-01\_pre\_2.0\_refactoring

---

## Branches

Each branch is a copy of /trunk into /branches.

Decide when to make a branch:

1. Users commit their day-to-day work on /trunk.
2. /trunk must compile and pass regression tests at all times. Committers who violate this rule are publically humiliated.
3. A single commit (changeset) must not be so large so as to discourage peer-review.
4. If rules 2 and 3 come into conflict (i.e. it's impossible to make a series of small commits without disrupting the /trunk), then the user should create a branch and commit a series of smaller changesets there. This allows peer-review without disrupting the stability of /trunk.

Further Information:

- <http://svn.collab.net/repos/svn/trunk/doc/user/svn-best-practices.html>
- <http://svnbook.red-bean.com/en/1.0/ch04s03.html#svn-ch-4-sect-3.2>
- [http://www.pragmaticprogrammer.com/titles/svn/tags\\_and\\_branches.pdf](http://www.pragmaticprogrammer.com/titles/svn/tags_and_branches.pdf)

---

## Merging

Track merging manually, with a commit message as described in the Commit section.

Further Information:

- <http://svnbook.red-bean.com/en/1.1/ch04s03.html#svn-ch-4-sect-3.3.1>

---

## Tools

- **TortoiseSVN** – Windows Subversion client  
<http://tortoisesvn.tigris.org/>
- **RapidSVN** – Linux, Mac, Windows GUI Frontend  
<http://rapidsvn.tigris.org/>
- **Trac** – Wiki + Issue Tracker with Subversion support  
<http://www.edgewall.com/trac/>

Further Information:

- [http://subversion.tigris.org/project\\_links.html](http://subversion.tigris.org/project_links.html)

---

*This guideline does not fit everyone. It should be considered as a starting point that can and should be adapted to ones individual requirements.*

Compiled by [martin.ankerl@profactor.at](mailto:martin.ankerl@profactor.at) on Thursday, August 25, 2005