Version control using SVN

straton user guide – Rev. 5

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straton

Content

1. Overview

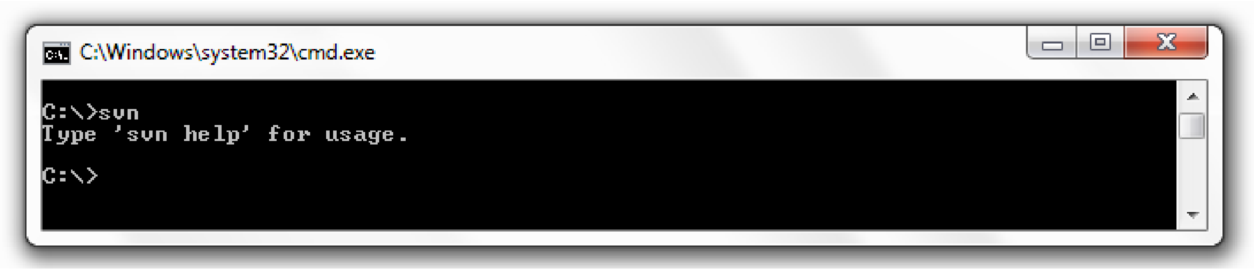
This document introduces the use of Version Control in the straton Editor.

2. Requirement and setup

straton Editor version 9.0 or higher is required.

A command line SVN client (SVN.EXE) must be installed on your computer. Free SVN clients are available from the official Apache web site: https://subversion.apache.org/packages.html

SVN.EXE must be accessible through the PATH environment variable. You can easily check this from a CMD prompt window:



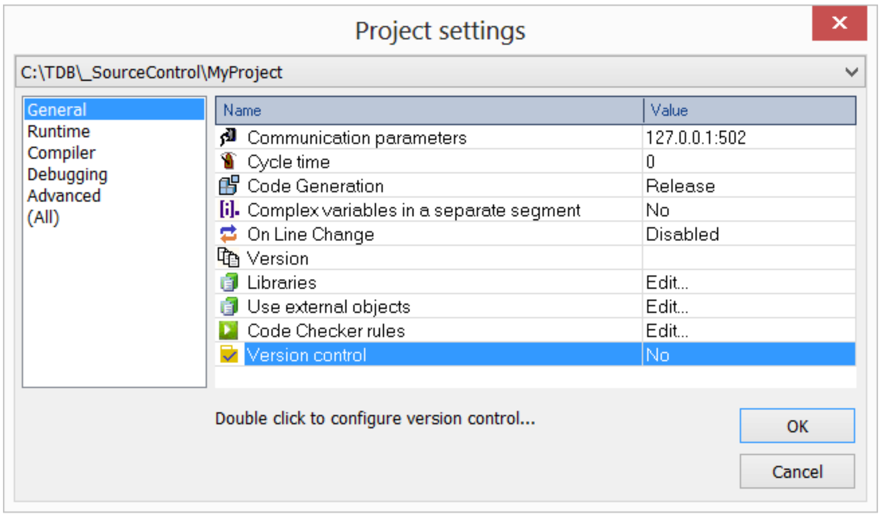
```
C:\>svn
Type 'svn help' for usage.

C:\>
```

straton was validated with the "VisualSVN" client.

3. Enable Version Control for a project

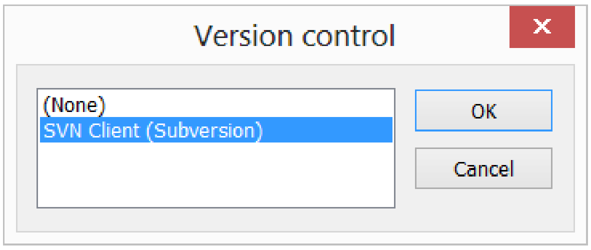
From the "General" page of the Project Settings box, double click on the "Version control" option:



Name	Value
Communication parameters	127.0.0.1:502
Cycle time	0
Code Generation	Release
Complex variables in a separate segment	No
On Line Change	Disabled
Version	
Libraries	Edit...
Use external objects	Edit...
Code Checker rules	Edit...
Version control	No

Double click to configure version control...

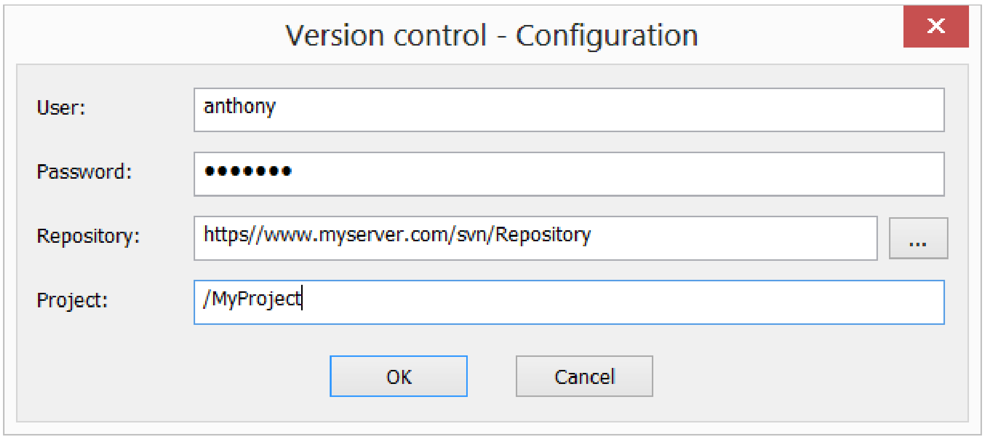
Then select "SVN Client":



Version control

(None)
SVN Client (Subversion)

Now you need to configure the connection to your SVN server:



Version control - Configuration

User: anthony

Password: •••••••

Repository: https//www.myserver.com/svn/Repository

Project: /MyProject

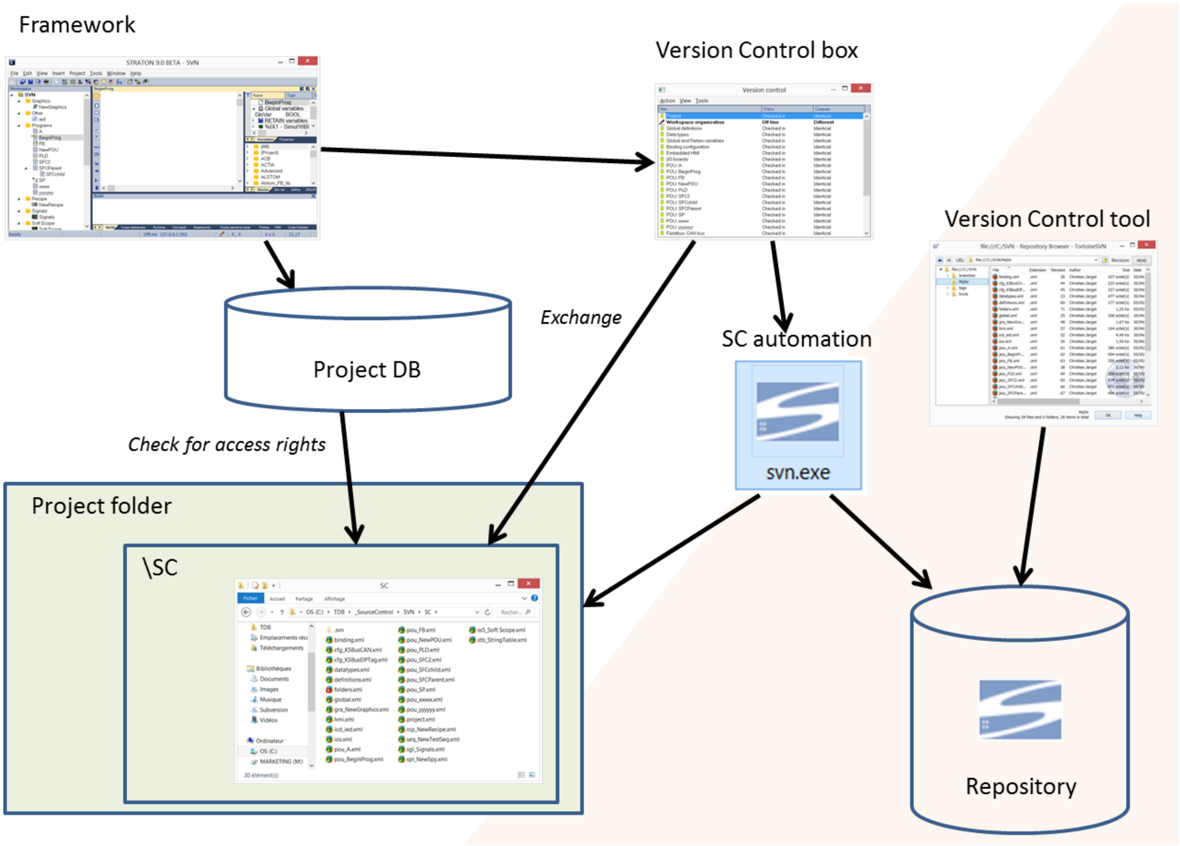
The URL must correspond to a valid reachable SVN repository. If your repository is installed locally on your computer, use the "..." button to browse for the folder where it is installed.

You must enter a project path name in the repository for archiving straton project files. If not existing yet, straton will propose you to create it in the repository when you press OK.

After connection, the Version Control box is opened. You can re-open the Version Control at any time using the "Project / Version Control" menu.

The components of the straton projects are stored in the repository as XML files. straton creates an exchange area where XML files are exported and shared with SVN as a local copy. This area is the directory "\SC" in the project folder.

Architecture:

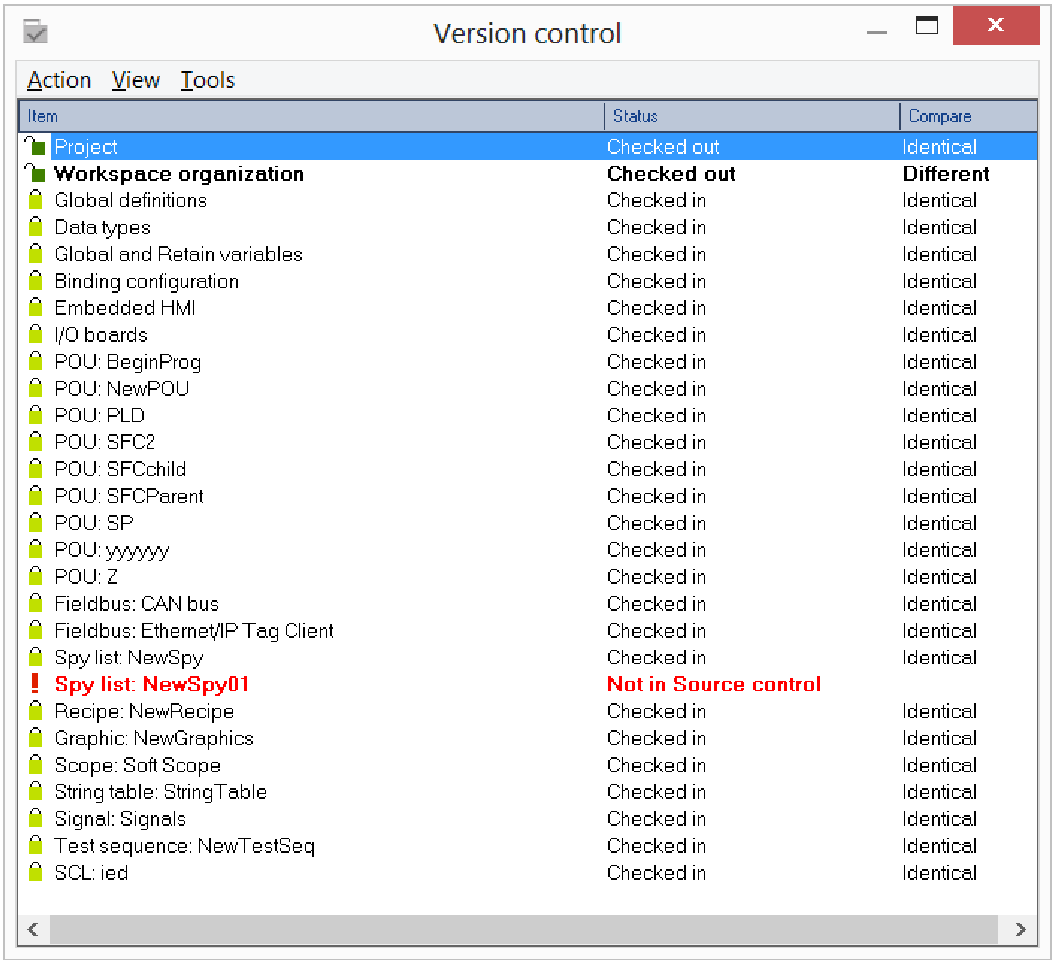


Warning: XML files in the \SC directory are updated only when the Version Control box is open. Some changes made in the local project while this box is closed may not be reflected in these files.

Also, changes of these files using the SVN tool will not be automatically injected in the local project. Always use the Version Control box for any "commit" or "get version" activity.

4. The Version Control box

The box shows the list of the components of the project, with their status in the Version Control tool:



Item	Status	Compare
Project	Checked out	Identical
Workspace organization	**Checked out**	**Different**
Global definitions	Checked in	Identical
Data types	Checked in	Identical
Global and Retain variables	Checked in	Identical
Binding configuration	Checked in	Identical
Embedded HMI	Checked in	Identical
I/O boards	Checked in	Identical
POU: BeginProg	Checked in	Identical
POU: NewPOU	Checked in	Identical
POU: PLD	Checked in	Identical
POU: SFC2	Checked in	Identical
POU: SFCchild	Checked in	Identical
POU: SFCParent	Checked in	Identical
POU: SP	Checked in	Identical
POU: yyyyyy	Checked in	Identical
POU: Z	Checked in	Identical
Fieldbus: CAN bus	Checked in	Identical
Fieldbus: Ethernet/IP Tag Client	Checked in	Identical
Spy list: NewSpy	Checked in	Identical
! **Spy list: NewSpy01**	**Not in Source control**	
Recipe: NewRecipe	Checked in	Identical
Graphic: NewGraphics	Checked in	Identical
Scope: Soft Scope	Checked in	Identical
String table: StringTable	Checked in	Identical
Signal: Signals	Checked in	Identical
Test sequence: NewTestSeq	Checked in	Identical
SCL: ied	Checked in	Identical

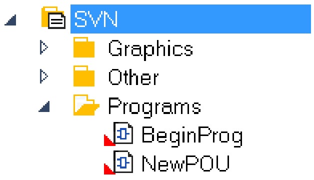
Below are the various possible components:

	notes
Project	The project skeleton and various options
Workspace organization	The organization of elements with the workspace tree
Global definitions	
Data types	All user defined data types (structures, enumerated data types and bit fields)
Global and Retain variables	
Binding configuration	
Embedded HMI	
I/O boards	“%...” I/O boards
POU …	A POU including its local variables and definitions
Fieldbus …	A fieldbus configuration (e.g. CAN)
Spy list …	A spy list
Recipe …	A recipe
Graphic …	A graphic document
Scope …	A soft scope document
String table …	A string table
Signal …	A “signals” document
Test sequence …	A test sequence
SCL …	A SCL file

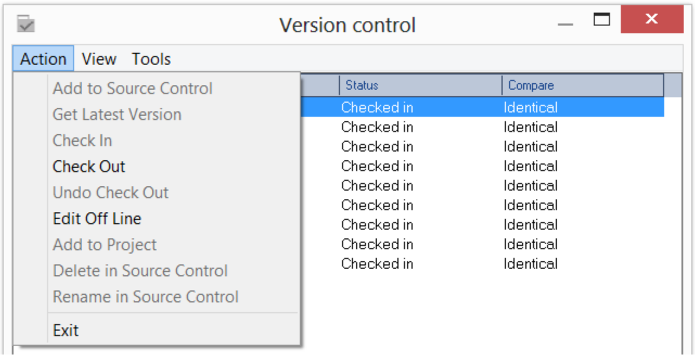
Below are the possible states for components:

	notes
Checked in	The item is not locked in the Version Control repository and is not modifiable in the local project
Checked out	The item is locked in the Version Control repository and is modifiable in the local project
Checked out by …	The item is locked in the Version Control repository by another user, and is not modifiable in the local project
Off line	The item is not locked in the Version Control repository but is modifiable in the local project
Not in Source control	The item is present in the local project but is not archived in the repository.
Only in Source control	The item is archived in the repository but does not exist in the local project

Items which are set as "not modifiable" by the source control are shown with a small red triangle mark in the workspace:



Use the commands of the "Action" menu to perform synchronization actions in between the repository and the local project:



Status	Compare
Checked in	Identical
Checked in	Identical
Checked in	Identical
Checked in	Identical
Checked in	Identical
Checked in	Identical
Checked in	Identical
Checked in	Identical
Checked in	Identical

Actions:

	notes
Add to Source Control	If the item is present in the local project but not yet archived in the repository, this command makes a first commit.
Get latest version	Update the local project with the latest version of the item in the repository.
Check in	Unlock the item in the repository and mark it as not modifiable in the local project
Check out	Lock the item in the repository and mark it as modifiable in the local project.
Undo check out	Unlock an item locked by a “check out” action.
Edit off line	Mark the item as modifiable in the local project without changing anything in the repository.
Add to project	Add to the project an item existing only in the repository
Delete in Source Control	Removes an item from the repository.
Rename in Source Control	Rename an item in the repository.

The commands of the “View” menu enable you to explore version control information from the Source Control repository:

	notes
History	List the history of modifications for the selected item. From the history list, you can then retrieve a specific version of the item to be copied in the local project.
Differences	Shows differences in between the local project and the latest version of the item in the repository.

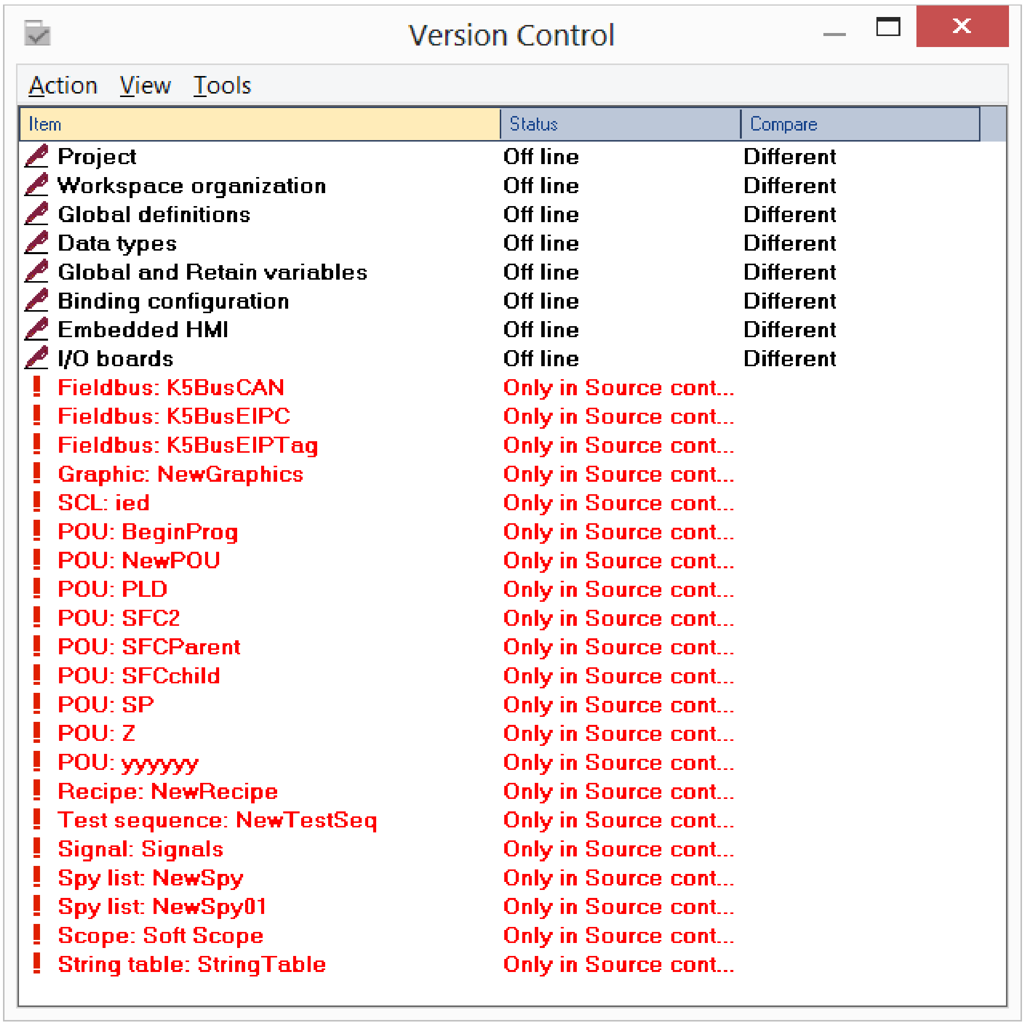
5. Common use cases

5.1. Create a local project based on a project archived in Source Control

You must follow the procedure below:

1. Create a new empty project
2. From the Project Settings box, activate and configure Version Control

The list will show some items different and some missing in the project:



Item	Status	Compare
Project	Off line	Different
Workspace organization	Off line	Different
Global definitions	Off line	Different
Data types	Off line	Different
Global and Retain variables	Off line	Different
Binding configuration	Off line	Different
Embedded HMI	Off line	Different
I/O boards	Off line	Different
! Fieldbus: K5BusCAN	Only in Source cont...	
! Fieldbus: K5BusEIPC	Only in Source cont...	
! Fieldbus: K5BusEIPTag	Only in Source cont...	
! Graphic: NewGraphics	Only in Source cont...	
! SCL: ied	Only in Source cont...	
! POU: BeginProg	Only in Source cont...	
! POU: NewPOU	Only in Source cont...	
! POU: PLD	Only in Source cont...	
! POU: SFC2	Only in Source cont...	
! POU: SFCParent	Only in Source cont...	
! POU: SFCchild	Only in Source cont...	
! POU: SP	Only in Source cont...	
! POU: Z	Only in Source cont...	
! POU: yyyyyy	Only in Source cont...	
! Recipe: NewRecipe	Only in Source cont...	
! Test sequence: NewTestSeq	Only in Source cont...	
! Signal: Signals	Only in Source cont...	
! Spy list: NewSpy	Only in Source cont...	
! Spy list: NewSpy01	Only in Source cont...	
! Scope: Soft Scope	Only in Source cont...	
! String table: StringTable	Only in Source cont...	

3. Select all red objects and run “Add to project”
4. Select all others (Off line / Different) and run “Get Latest Version”
5. Select again the objects marked as Off line and run “Check in”