

Git Case Study

1) Check your current working directory

```
hruthin@4f7e8c7e4ccb5e3: ~/newsvn
This message is shown once a day. To disable it please create the
/home/hruthin/.hushlogin file.
hruthin@4f7e8c7e4ccb5e3:~$ pwd
/home/hruthin
```

2) Before starting the migration, ensure you have the following tools installed:

Git

Subversion (SVN)

Git-svn

```
hruthin@4f7e8c7e4ccb5e3:~$ git --version
git version 2.43.0
```

```
hruthin@4f7e8c7e4ccb5e3:~$ sudo apt-get install git-svn
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libserf-1-1 libsvn-perl libsvn1 libterm-readkey-perl libutf8proc3
  libyaml-libyaml-perl libyaml-perl
Suggested packages:
  git-doc subversion libyaml-shell-perl
The following NEW packages will be installed:
  git-svn libserf-1-1 libsvn-perl libsvn1 libterm-readkey-perl
  libutf8proc3 libyaml-libyaml-perl libyaml-perl
0 upgraded, 8 newly installed, 0 to remove and 63 not upgraded.
Need to get 2617 kB of archives.
After this operation, 11.7 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 libserf-1-1 amd64 1.3.10-1ubuntu0.24.04.1 [48.2 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/universe amd64 libutf8proc3 amd64 2.9.0-1build1 [70.6 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/universe amd64 libsvn1 amd64 1.14.3-1build4 [1345 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/universe amd64 libsvn-perl amd64 1.14.3-1build4 [951 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble/main amd64 libyaml-perl all 1.31-1 [65.7 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble/main amd64 libterm-readkey-perl amd64 2.38-2build4 [23.1 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 git-svn all 1:2.43.0-1ubuntu7.2 [82.6 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble/main amd64 libyaml-libyaml-perl amd64 0.89+ds-1build2 [30.5 kB]
Fetched 2617 kB in 5s (544 kB/s)
Selecting previously unselected package libserf-1-1:amd64.
(Reading database ... 46128 files and directories currently installed.)
Preparing to unpack .../libserf-1-1-1.3.10-1ubuntu0.24.04.1_amd64.deb ...
Unpacking libserf-1-1:amd64 (1.3.10-1ubuntu0.24.04.1) ...
Selecting previously unselected package libutf8proc3:amd64.
```

```
hruthin@4f7e8c7e4ccb5e3:~/svn-git-repo$ sudo apt-get install subversion
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
  db5.3-util libapache2-mod-svn subversion-tools
The following NEW packages will be installed:
  subversion
0 upgraded, 1 newly installed, 0 to remove and 63 not upgraded.
Need to get 908 kB of archives.
After this operation, 4964 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/universe amd64 subversion amd64 1.14.3-1build4 [908 kB]
Fetched 908 kB in 2s (428 kB/s)
Selecting previously unselected package subversion.
(Reading database ... 46312 files and directories currently installed.)
Preparing to unpack .../subversion-1.14.3-1build4_amd64.deb ...
Unpacking subversion (1.14.3-1build4) ...
Setting up subversion (1.14.3-1build4) ...
Processing triggers for man-db (2.12.0-4build2) ...
```

3) Create an empty directory for your new Git repository and initialize it:

```
hruthin@4f7e8c7e4ccb5e3:~/newsvn$ git init
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
```

4) Install subversion(SVN) to create a SVN repository

```
hruthin@4f7e8c7e4ccb5e3:~/news$ sudo apt-get install subversion
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
subversion is already the newest version (1.14.3-1build4).
0 upgraded, 0 newly installed, 0 to remove and 63 not upgraded.
hruthin@4f7e8c7e4ccb5e3:~/news$ svnadmin create svnrepo
```

5) Create a SVN repository and repository structure

```
hruthin@4f7e8c7e4ccb5e3:~/news$ svnadmin create svnrepo
hruthin@4f7e8c7e4ccb5e3:~/news$ cd ..
hruthin@4f7e8c7e4ccb5e3:~$ svn mkdir file:///home/hruthin/svnrepo/trunk file:///home/hruthin/svnrepo/branches file:///home/hruthin/svnrepo/tags -m "initial structure"
Committing transaction...
Committed revision 1.
```

6) Create a test directory called my-working-copy and add files like test-file.txt and file.txt.

```
hruthin@4f7e8c7e4ccb5e3:~$ mkdir working-copy
hruthin@4f7e8c7e4ccb5e3:~$ cd working-copy
-bash: cd: working-copy: No such file or directory
hruthin@4f7e8c7e4ccb5e3:~$ cd working-copy
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn checkout file:///home/hruthin/svnrepo/trunk file:///home/hruthin/workingcopy
Checked out revision 1.
svn: E170013: Unable to connect to a repository at URL 'file:///home/hruthin/workingcopy'
svn: E180001: Unable to open repository 'file:///home/hruthin/workingcopy'
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn checkout file:///home/hruthin/svnrepo/trunk /home/hruthin/workingcopy
Checked out revision 1.
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ echo "this is a simple test file">>testfile.txt
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn add testfile.txt
svn: E155007: '/home/hruthin/working-copy' is not a working copy
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn checkout file:///home/hruthin/svnrepo/trunk /home/hruthin/working-copy
Checked out revision 1.
```

7) Add the new files to svn and commit the changes using svn add and svn commit commands.

```
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn checkout file:///home/hruthin/svnrepo/trunk /home/hruthin/workingcopy
Checked out revision 1.
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ echo "this is a simple test file">>testfile.txt
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn add testfile.txt
svn: E155007: '/home/hruthin/working-copy' is not a working copy
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn checkout file:///home/hruthin/svnrepo/trunk /home/hruthin/working-copy
Checked out revision 1.
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ echo "this is a simple test file">>testfile.txt
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn add testfile.txt
A
testfile.txt
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn status
A
testfile.txt
?
trunk
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn commit -m "added a testfile"
Adding
testfile.txt
Transmitting file data .done
Committing transaction...
Committed revision 2.
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn log file:///home/hruthin/svnrepo
svn: E200007: When specifying working copy paths, only one target may be given
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn log file:///home/hruthin/svnrepo
-----
r2 | hruthin | 2025-01-30 12:30:43 +0000 (Thu, 30 Jan 2025) | 1 line
added a testfile
-----
r1 | hruthin | 2025-01-30 12:10:00 +0000 (Thu, 30 Jan 2025) | 1 line
initial structure
-----
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ echo "another change">>testfile2.txt
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn add testfile2.sh
svn: warning: W155010: '/home/hruthin/working-copy/testfile2.sh' not found
svn: E200009: Could not add all targets because some targets don't exist
svn: E200009: Illegal target for the requested operation
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn add testfile2.txt
A
testfile2.txt
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn checkout file:///home/hruthin/svnrepo/trunk /home/hruthin/working-copy
Checked out revision 2.
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn add testfile2.txt
```

8) Verify the changes using svn log command

```
committed revision 3:
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn log file:///home/hruthin/svnrepo
-----
r3 | hruthin | 2025-01-30 12:35:21 +0000 (Thu, 30 Jan 2025) | 1 line
new chnage
-----
r2 | hruthin | 2025-01-30 12:30:43 +0000 (Thu, 30 Jan 2025) | 1 line
added a testfile
-----
r1 | hruthin | 2025-01-30 12:10:00 +0000 (Thu, 30 Jan 2025) | 1 line
initial structure
-----
```

9) Checkout the repository to work locally

```
hruthin@4f7e8c7e4ccb5e3:~/working-copy$ svn checkout file:///home/hruthin/svnrepo/trunk /home/hruthin/working-copy
Checked out revision 2.
```

10) Import the files from test directory to your svn repository and verify the changes

```
hruthin@4f7e8c7e4ccb5e3:~$ svn import /home/hruthin/working-copy file:///home/hruthin/svnrepo/trunk -m "initial commit"
Skipped 'working-copy/.svn/.svn'
svn: E160020: File already exists: filesystem '9b7b851f-b6e9-426f-913f-7faefbedd222', transaction '3-3', path '/trunk/testfile.txt'
hruthin@4f7e8c7e4ccb5e3:~$ svn list file:///home/hruthin/svnrepo/trunk
testfile.txt
testfile2.txt
```

11) Now you will use svn-git to clone the SVN repository into your git repository new-git-repo

```
hruthin@4f7e8c7e4ccb5e3:~/news$ git svn clone file:///home/hruthin/svnrepo --stdlayout /home/hruthin/news
r1 = ab397e90e19ef7b105483f4b1862faa7861bd36f (refs/remotes/origin/trunk)
A testfile.txt
r2 = bcd4d4edd5a3fd99ffc43c8ee622923050a95ea9 (refs/remotes/origin/trunk)
A testfile2.txt
r3 = 4a5e6677c2a224a7f8cbccc946f75d4398afbcbd (refs/remotes/origin/trunk)
Checked out HEAD:
file:///home/hruthin/svnrepo/trunk r3
```

```
hruthin@4f7e8c7e4ccb5e3:~/news$ git log
commit 4a5e6677c2a224a7f8cbccc946f75d4398afbcbd (HEAD -> master, origin/trunk)
Author: hruthin <hruthin@9b7b851f-b6e9-426f-913f-7faefbedd222>
Date: Thu Jan 30 12:35:21 2025 +0000

    new chnage

    git-svn-id: file:///home/hruthin/svnrepo/trunk@3 9b7b851f-b6e9-426f-913f-7faefbedd222

commit bcd4d4edd5a3fd99ffc43c8ee622923050a95ea9
Author: hruthin <hruthin@9b7b851f-b6e9-426f-913f-7faefbedd222>
Date: Thu Jan 30 12:30:43 2025 +0000

    added a testfile

    git-svn-id: file:///home/hruthin/svnrepo/trunk@2 9b7b851f-b6e9-426f-913f-7faefbedd222

commit ab397e90e19ef7b105483f4b1862faa7861bd36f
Author: hruthin <hruthin@9b7b851f-b6e9-426f-913f-7faefbedd222>
Date: Thu Jan 30 12:10:00 2025 +0000

    initial structure

    git-svn-id: file:///home/hruthin/svnrepo/trunk@1 9b7b851f-b6e9-426f-913f-7faefbedd222
```