



Exercise 3.1: Converting a Subversion repository to Git

- Make sure you have the appropriate **subversion** software installed to do the following steps. In addition to the basic **subversion** package one needs **subversion-perl**. There may be other useful packages which are obtainable from the **EPEL** repository on **RHEL**-based systems.
- The easiest way to get a copy, or clone, of a **Subversion** project is to use **git svn**.
- To obtain a copy of part of the **Subversion** repository itself one can do:

```
$ git svn clone https://svn.apache.org/repos/asf/subversion/trunk/doc my_svn_repo
```

where we have chosen only the **doc** module of **Subversion** in order to keep things small.

- However, this can take a long time as it gathers the entire history of the project and sometimes hangs. It is easier for learning purposes to just get the most recent version (which for **git** we would call a **shallow clone**). There is no easy way to just say give me the last version with **Subversion**; we need an actual release number which can get with:

```
$ svn log https://svn.apache.org/repos/asf/subversion/trunk/doc | head
```

```
-----
r1663949 | brane | 2015-03-04 05:55:13 -0600 (Wed, 04 Mar 2015) | 1 line
* doc/svn-square.jpg: Copy the logo used by Doxygen from the site tree.
-----
r1663948 | brane | 2015-03-04 05:53:09 -0600 (Wed, 04 Mar 2015) | 1 line
...
```

- We can then pick just the latest release for the shallow clone:

```
$ git svn clone -r1663949 https://svn.apache.org/repos/asf/subversion/trunk/doc my_svn_repo
```

```
Initialized empty Git repository in /tmp/SVN/my_svn_repo/.git/
A      doxygen.conf
A      svn-square.jpg
A      programmer/gtest-guide.txt
A      programmer/WritingChangeLogs.txt
A      README
A      user/svn-best-practices.html
A      user/lj_article.txt
A      user/cvs-crossover-guide.html
r1663949 = f2f1312fe65123c1be0935421d05cc862d0d008e (refs/remotes/git-svn)
Checked out HEAD:
  https://svn.apache.org/repos/asf/subversion/trunk/doc r1663949
```

- This creates a **git** repository under the **my_svn_repo** directory, which you can examine. Notice all the **git** information goes in the **.git** subdirectory.
- If you want to compare with original **Subversion** repository, you can bring that down with:

```
$ svn checkout https://svn.apache.org/repos/asf/subversion/trunk/doc doc
```

```
....
```

where the repository information will go under **.svn** directories.

- Comparing:

```
$ diff -qr my_svn_repo/ doc/
```

```
Only in my_svn_repo/: .git
Only in doc/: .svn
```