



PITZ

Subversion Bootcamp

Agenda

- What is Subversion ?
- SVN Working Copy
- SVN Clients
- SVN History Tree
- SVN Working Cycle
- SVN for PITZ
- Demonstration and Exercises

What is Subversion?

- **Version Control** is the management of changes to documents, computer programs, large web sites, and other collections of information.
- **Subversion (SVN)** is the leading open source **Version Control System (VCS)**
- Designed to replace **Concurrent Version System (CVS)** – “standard” on Unix/Linux
- Allows multiple users to develop and maintain program code or documents.
- Users can make their own versions (revisions) of a files, commit changes, and merge them together.
- Each revision (a unique number) is associated with a timestamp and the person making the change.

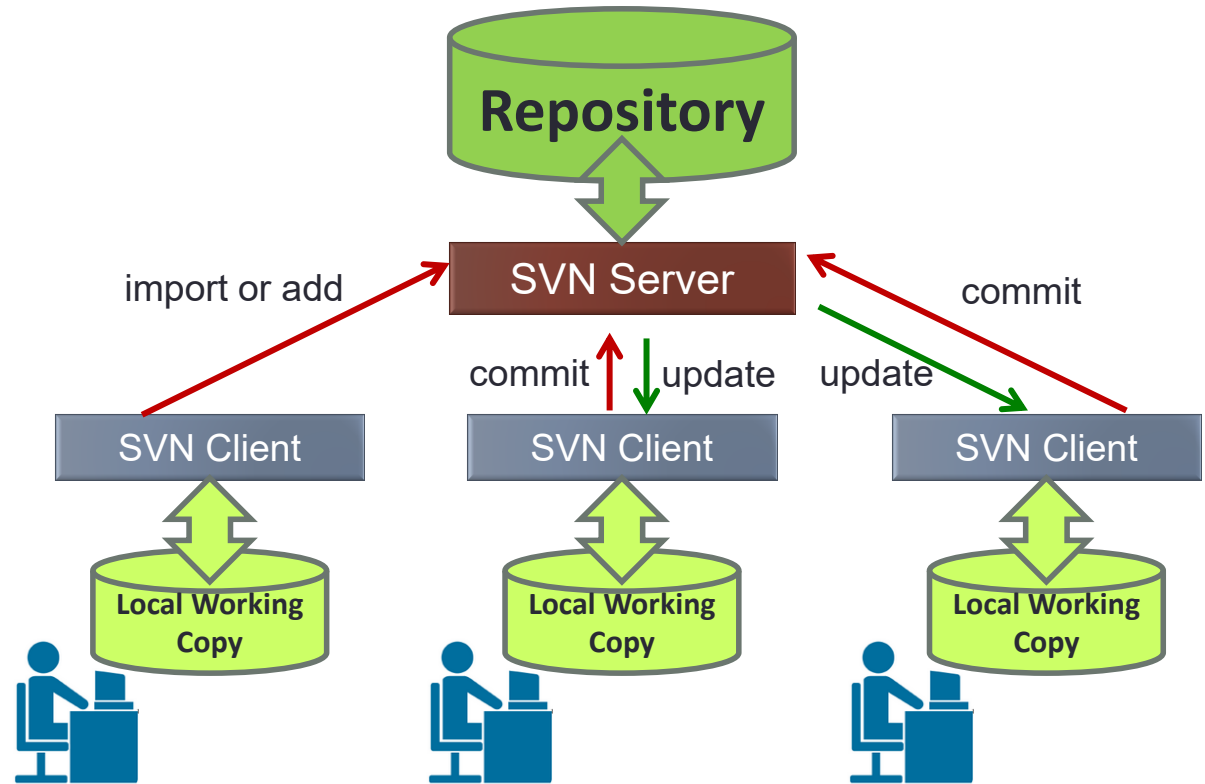


What is Subversion?

- A centralized and backed-up storage (**repository**).
- Contains a history of any file changes.
- Shows differences between versions (*for many types of documents).
- Prevents overwriting each others documents by working on the same documents (**concurrent development**).
- Helps to check out prior documents.
- Easy to undo changes (revert to particular version).

Working copy

- **Your private** working area.
- Contains a **copy of files**.
- Contains the **.svn** folder.
- SVN **checkout** command to download SVN project from the repository
- SVN **add** command to put (share) your project to the repository.



- SVN **update** command to retrieve the changes from the repository.
- SVN **commit** command to publish your changes to the repository.

Subversion clients

- Command line based, e.g. SVN client “**svn**” (available on Linux), scriptable e.g. Python, Perl, Groovy, etc.
- Graphical: e.g. **TortoiseSVN** (for Windows).
- IDE plugins (integration): e.g. **IntelliJ, Eclipse, Netbeans, Delphi, Visual Studio, MatLab**, etc.
- Web-browser-based viewers: e.g. **viewvc, websvn**, etc.
- APIs, e.g. **SVNKit** a pure Java toolkit to work with SVN.

Useful links

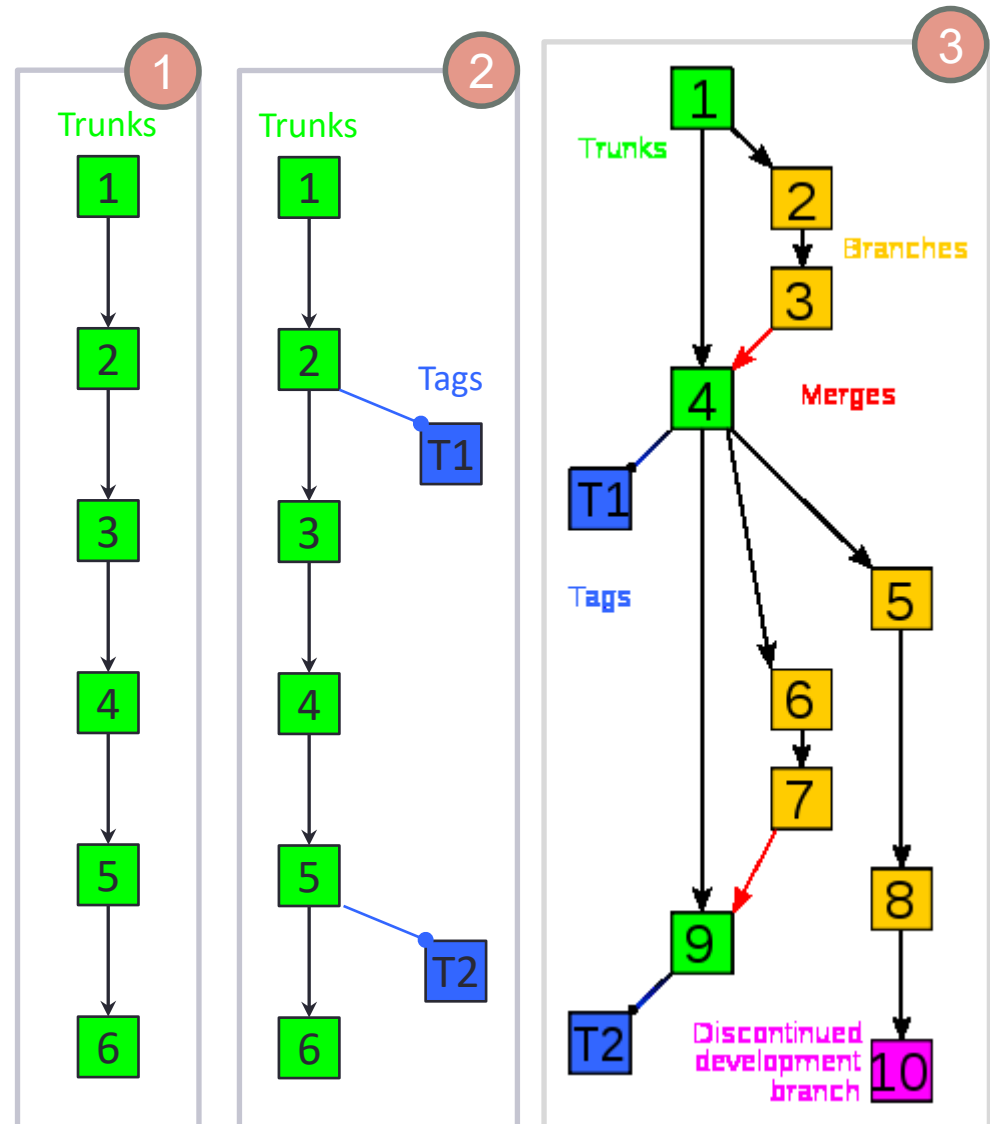
- Comparison of UI SVN clients:
https://en.wikipedia.org/wiki/Comparison_of_Subversion_clients
- SVN for Matlab: <https://de.mathworks.com/help/simulink/ug/set-up-svn-source-control.html>
- SVN server @ DESY Zeuthen: <https://svnsrv.desy.de/>
- Web-browser-based viewers @ DESY Zeuthen:
<https://svnsrv.desy.de/access.html#webaccess>

SVN History Tree

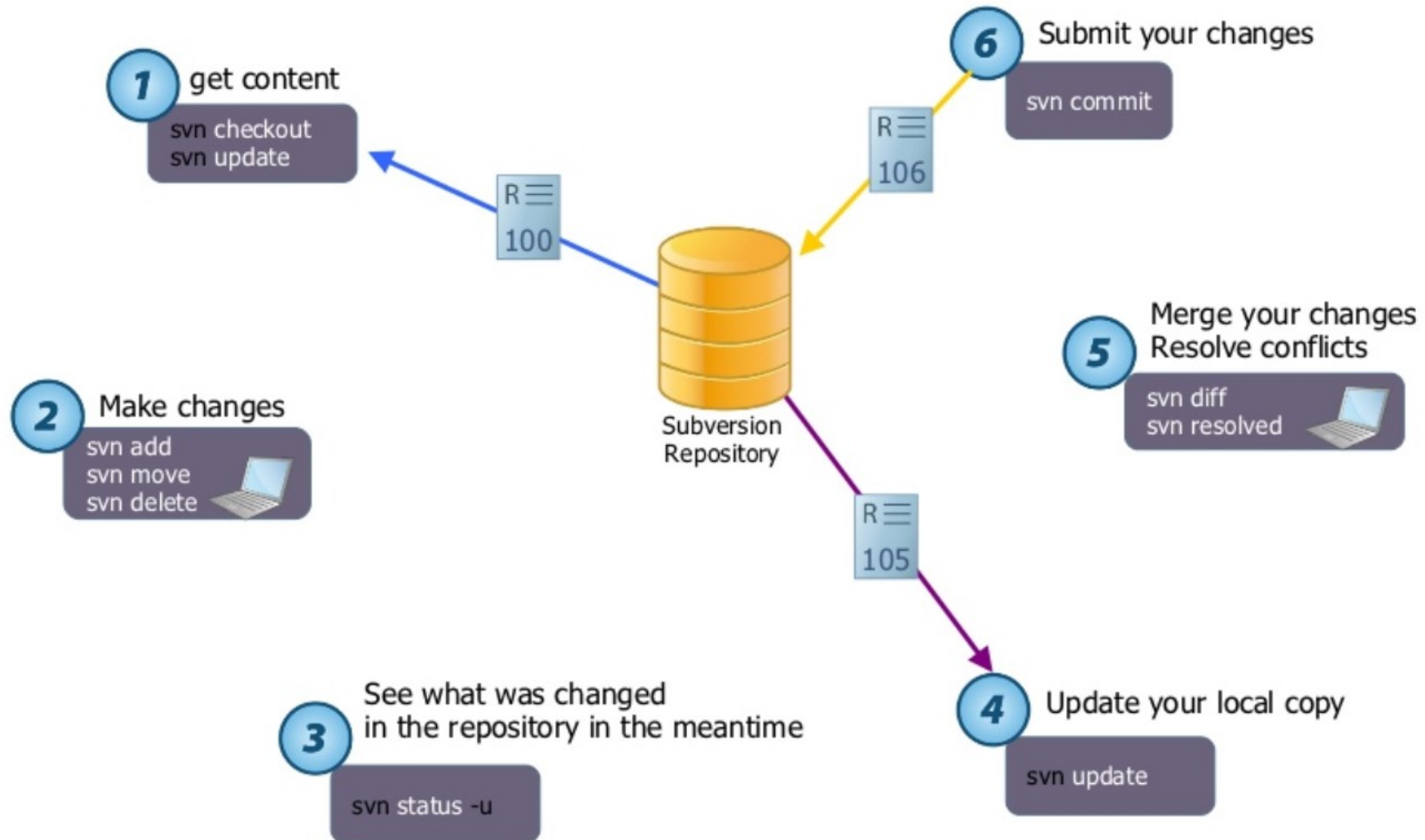
- **Trunk** – the main-line of development in a SVN repository.
- **Branched** – is a side-line of development created to make work without bothering users of the trunk version.
- **Tags** - are markers to notable revisions in the history of the repository, (like “Release 1.0.00”).

Notes:

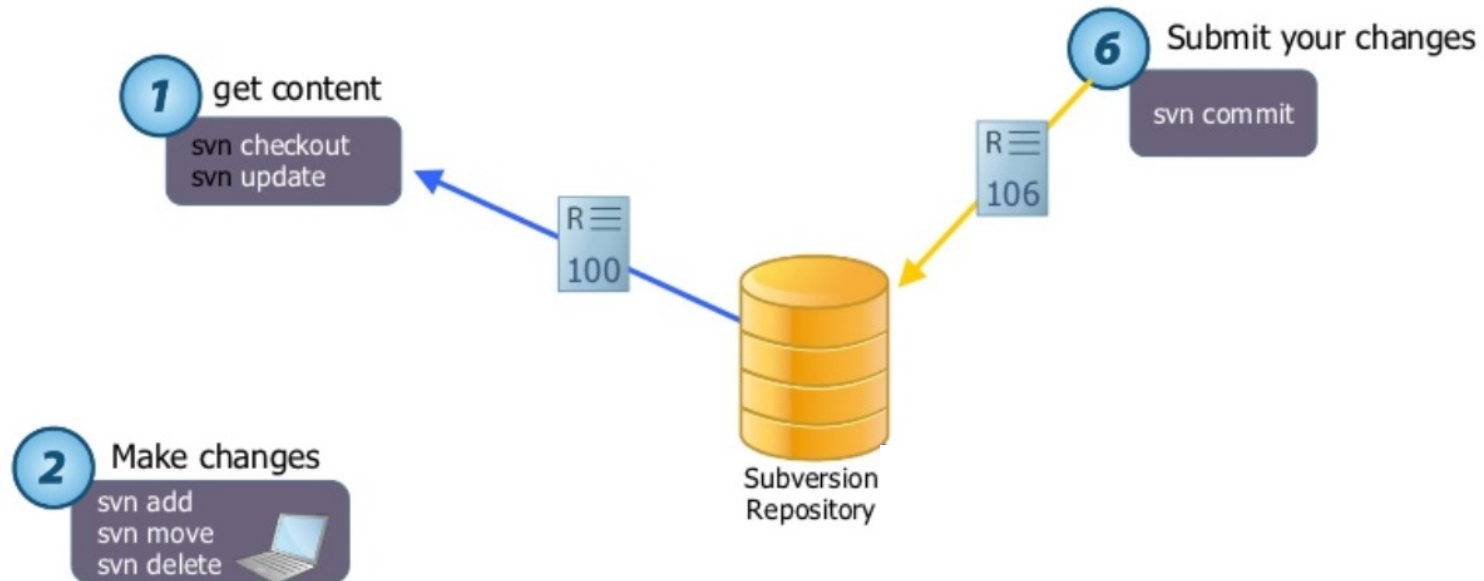
- *Branches and Tags are “cheap” operations.*
- **Option 2** for PITZ



The Working Cycle



The Working Cycle : simplified version



SVN for PITZ

- To access:
 - with DESY account <https://svnsrv.desy.de/desy/PITZ>
 - read-only access: <https://svnsrv.desy.de/public/PITZ>
- To browse (via web-browser-based viewers):
 - <https://svnsrv.desy.de/k5viewvc/PITZ/>
 - <https://svnsrv.desy.de/k5websvn/wsvn/General.PITZ>

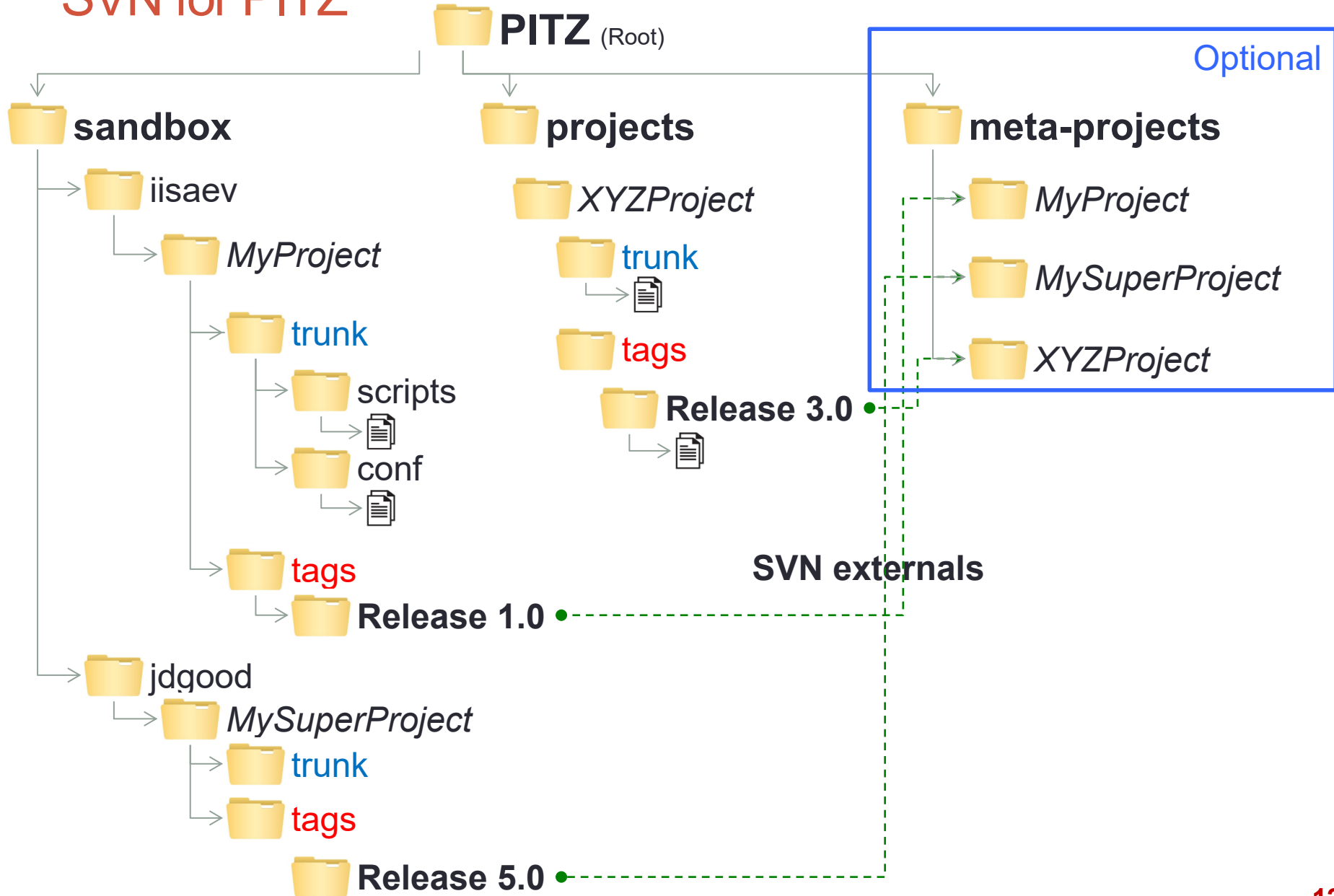
SVN for PITZ

| File ^ | Rev. | Age | Author |
|--|---------------------|-----------|----------------|
| doocs measure scripts/ | 158 | 7 months | sweisse |
| sandbox/ | 120 | 19 months | iisaev |
| tags/ | 1 | 4 years | svnadm@desy.de |
| tmp/ | | | |

| File ^ | Rev. | Age | Author |
|----------------------------------|---------------------|-----------|----------|
| Parent Directory | | | |
| gkourkaf/ | 25 | 4 years | gkourkaf |
| gryvash/ | 46 | 3 years | gryvash |
| iisaev/ | 120 | 19 months | iisaev |
| jdgood/ | 27 | 3 years | jdgood |
| khojoyan/ | 9 | 4 years | mdavid |
| otevrelm/ | 5 | 4 years | mdavid |

| File ^ | Rev. | Age |
|--|---------------------|-----------|
| Parent Directory | | |
| AFS vol space/ | 120 | 19 months |
| PITZ logos/ | 120 | 19 months |
| PITZ remote run stat/ | 120 | 19 months |
| Pulse Shaper Optimization/ | 120 | 19 months |
| QuickPhaseScan/ | 120 | 19 months |
| matlab mail sender/ | 120 | 19 months |

SVN for PITZ



Exercises: TortoiseSVN for Windows

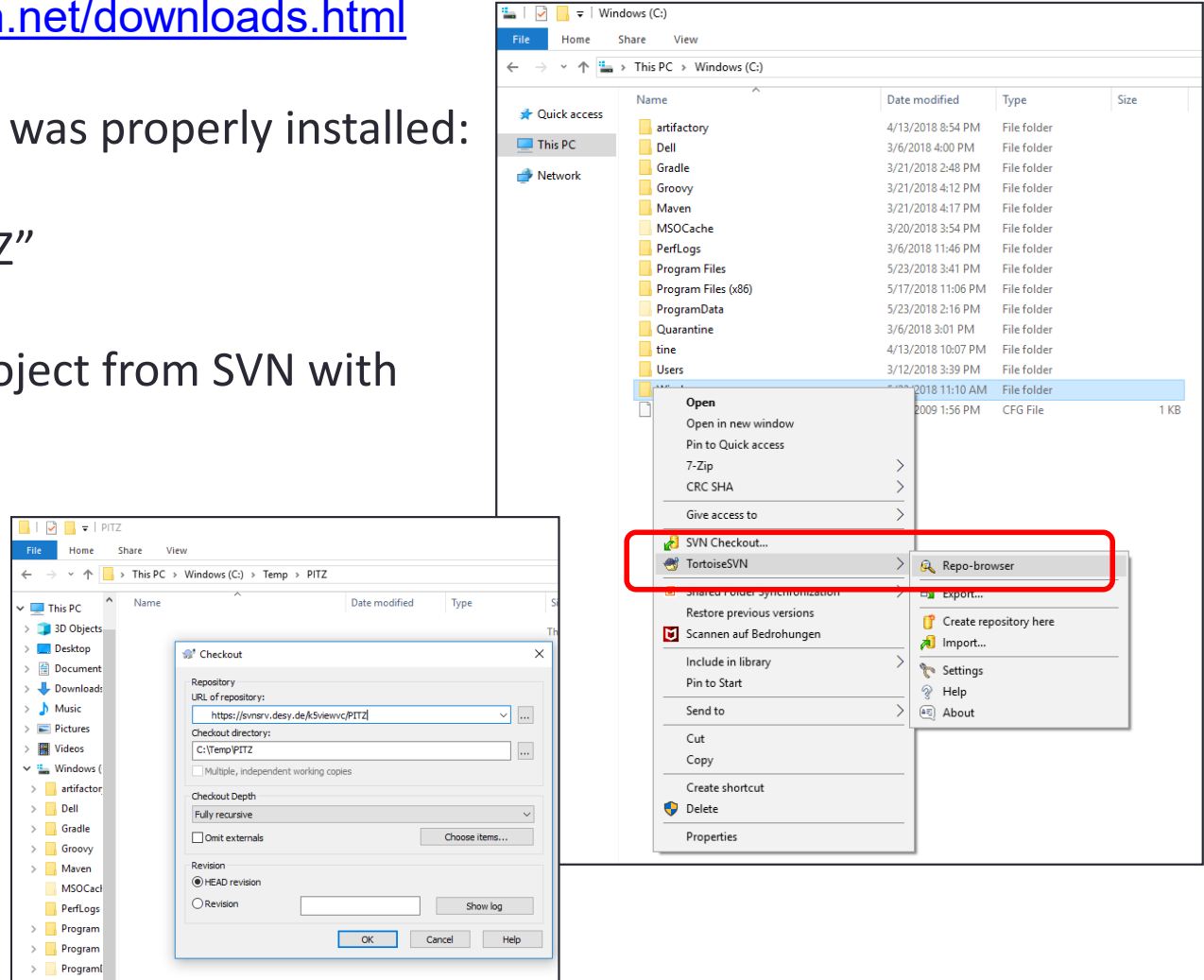
1. Download and install the tortoisetsvn from here:

<https://tortoisetsvn.net/downloads.html>

2. Check whether it was properly installed:

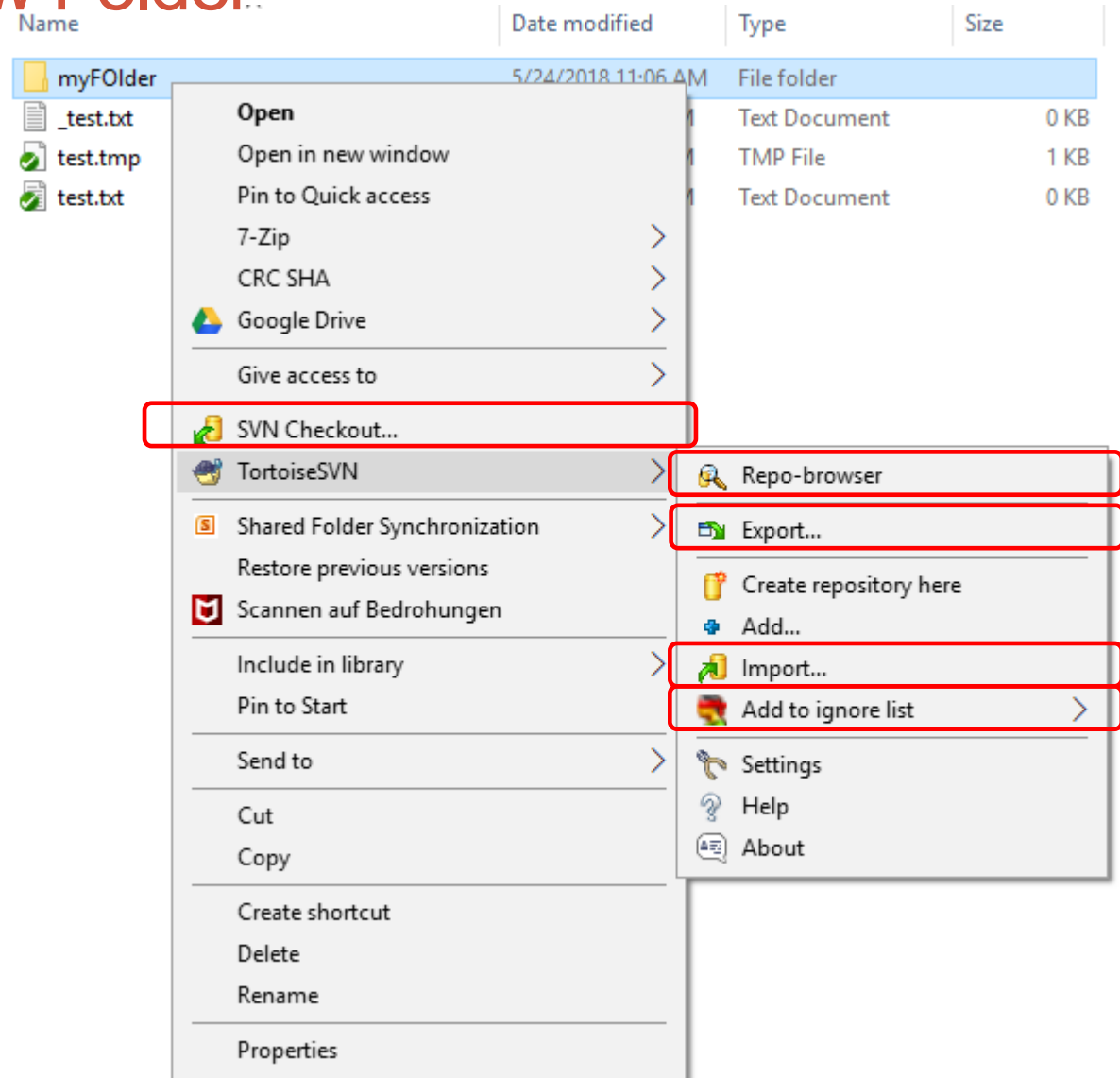
3. Create folder "PITZ"

4. Check-out PITZ project from SVN with "SVN Checkout..."



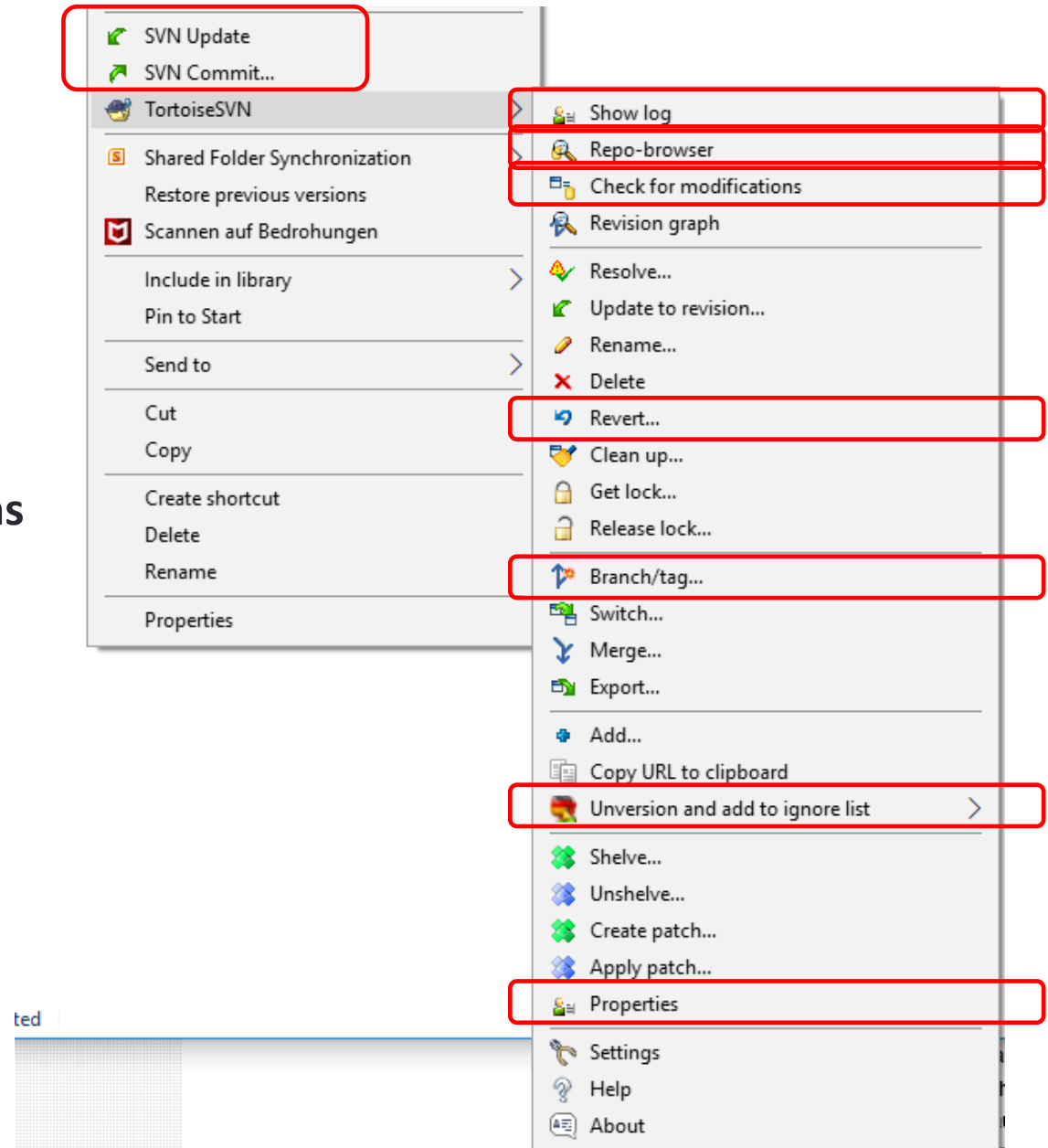
TortoiseSVN: New Folder..

1. SVN Checkout...
2. Repo-browser
3. Export...
4. Import...
5. Revert...
6. Add to ignore list...



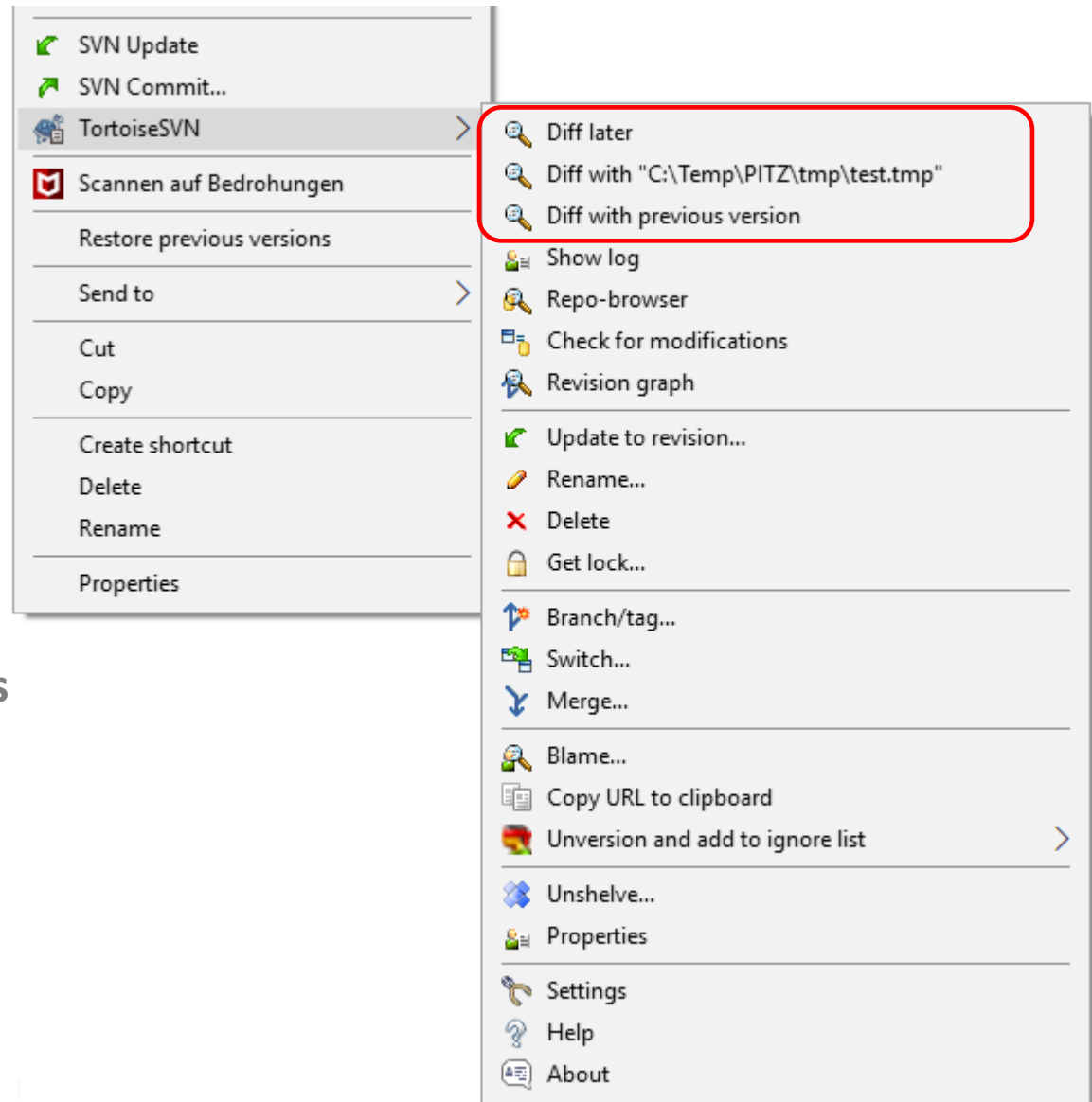
TortoiseSVN: Existing Folder

1. Update/Commit...
2. Show log
3. Repo-browser
4. Check for modifications
5. Revert...
6. Branch/Tag...
7. Unversion and add to ignore list...
8. Properties...



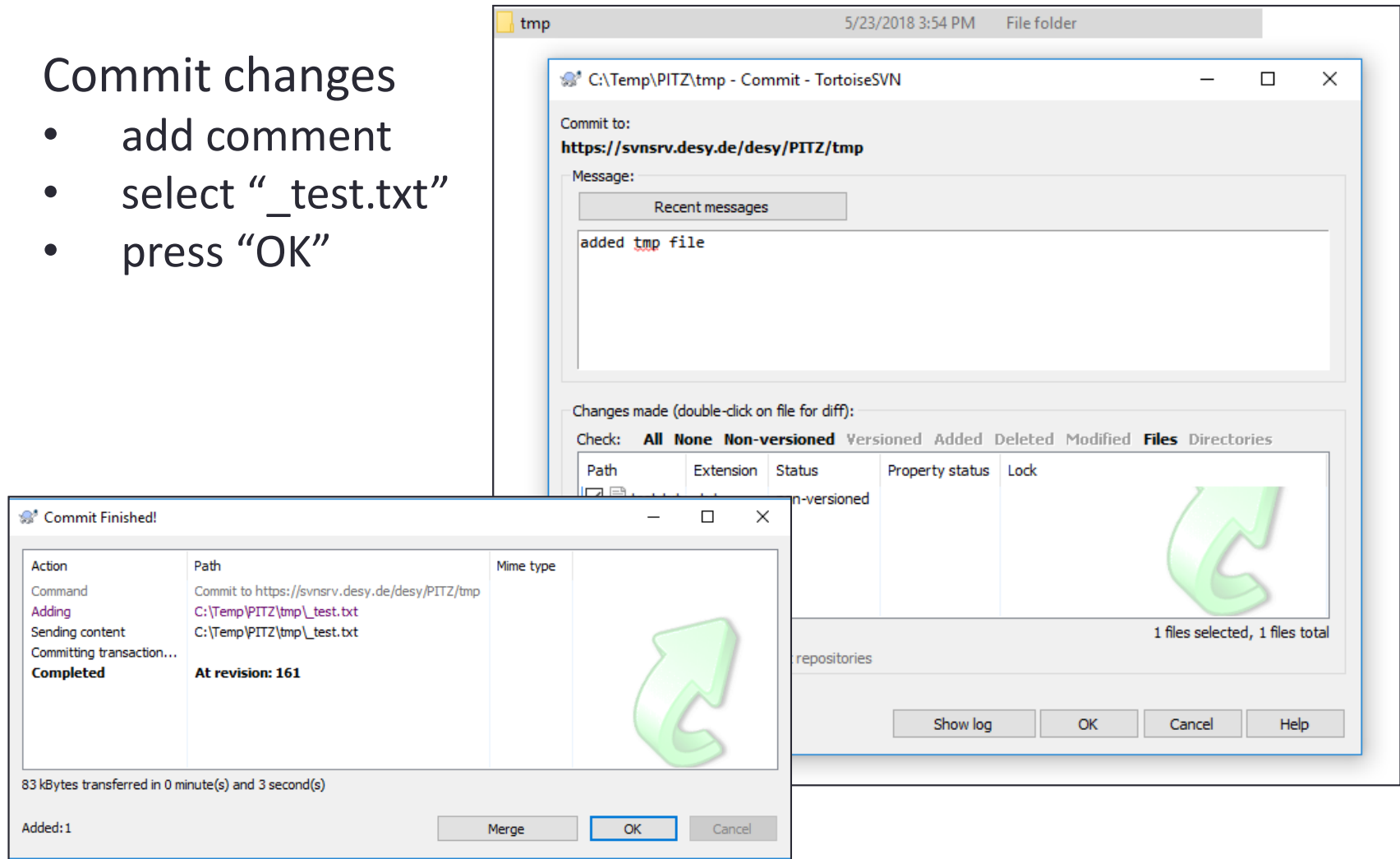
TortoiseSVN: Existing File

1. Diff later
2. Diff with previous version
3. Show log
4. Repo-browser
5. Check for modifications
6. Unversion and add to ignore list...
7. Properties...



Exercises: TortoiseSVN – add new file

1. Create new file in the “PITZ/tmp” folder
2. Commit changes
 - add comment
 - select “_test.txt”
 - press “OK”



Exercises: Command line on Linux – add new file

1. /tmp/mdavid % `svn co https://svnsrv.desy.de/desy/PITZ`
2. % `cd PITZ/tmp`
3. % `type "asdaa" >| test.tmp`
4. % `svn add --force .`
5. % `svn commit -m "test commit"`

```

A   PITZ/sandbox/gkourkaf/Tomo/typedef.hh
A   PITZ/sandbox/gkourkaf/Tomo/Interpol.hh
A   PITZ/sandbox/gkourkaf/Tomo/my_mentLinkdef.h
A   PITZ/sandbox/gkourkaf/Tomo/my_mentDict.cc
A   PITZ/sandbox/gkourkaf/Tomo/tomo_longitudinal_inc.C
A   PITZ/sandbox/gkourkaf/Tomo/my_mentDict.h
A   PITZ/sandbox/gkourkaf/Tomo/Matrix.hh
A   PITZ/sandbox/gkourkaf/Tomo/ProjectionElement_Long.hh
A   PITZ/sandbox/gkourkaf/Tomo/MaxEntropy.hh
A   PITZ/sandbox/gkourkaf/Tomo/TH2D_my.hh
A   PITZ/sandbox/gkourkaf/Tomo/tomo_transverse_inc.C
A   PITZ/sandbox/gkourkaf/Tomo/MaxEntropy_Long.cpp
A   PITZ/sandbox/gkourkaf/Tomo/ProjectionElement.cpp
A   PITZ/sandbox/gkourkaf/Tomo/Polygon.cpp
A   PITZ/sandbox/gkourkaf/Tomo/Makefile
A   PITZ/sandbox/gkourkaf/Tomo/Interpol.cpp
A   PITZ/sandbox/otevrelm
A   PITZ/tags
Checked out revision 159.
[wqs13] /tmp/mdavid % █

```

More information

- % `svn help`
- % `svn -version`
 svn, version 1.6.11 (r934486)
 compiled Aug 17 2015, 09:58:24

thank you

Questions ?