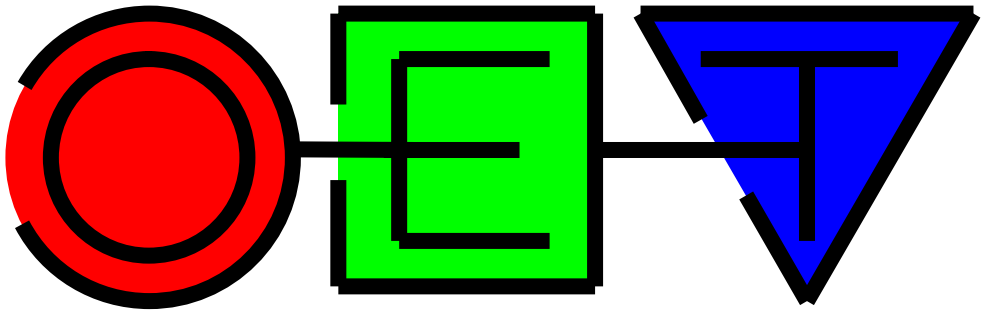


OpenEarthTools =

Open source management of

Data, Models and Tools for

marine & coastal

science & technology

TU Delft

Deltares

EcoShape

building with nature

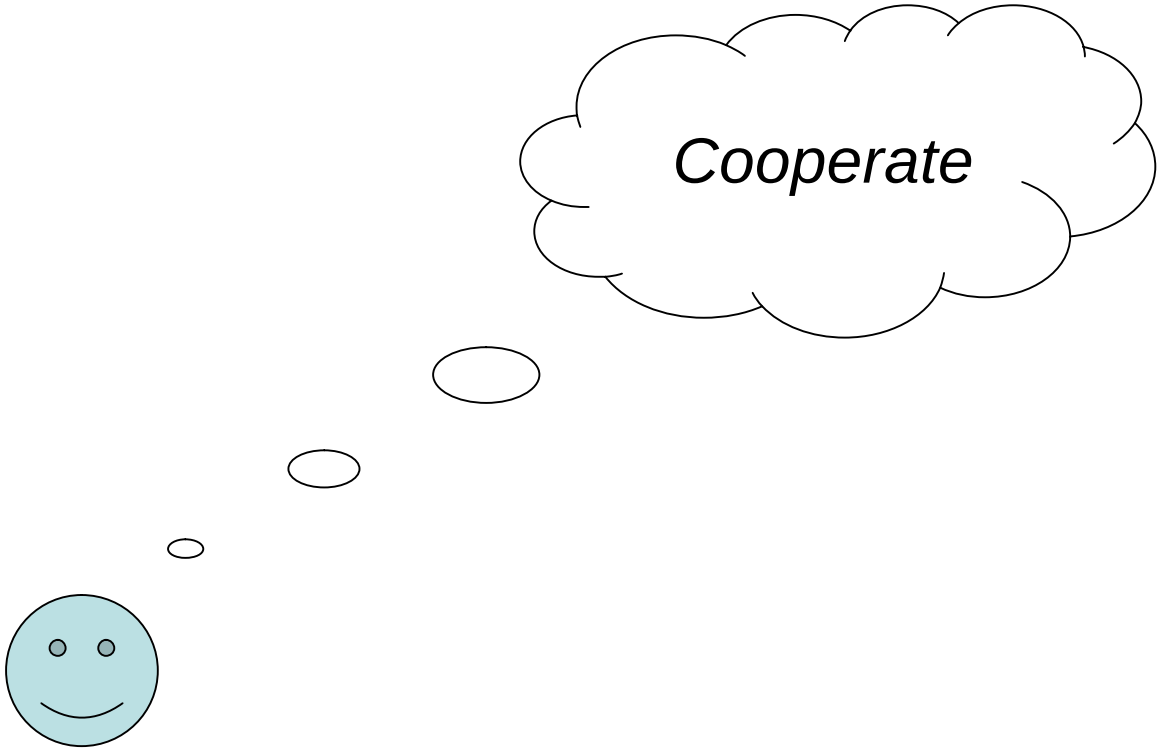
micore

.. and what about

YOU?

What is OpenEarth: philosophy

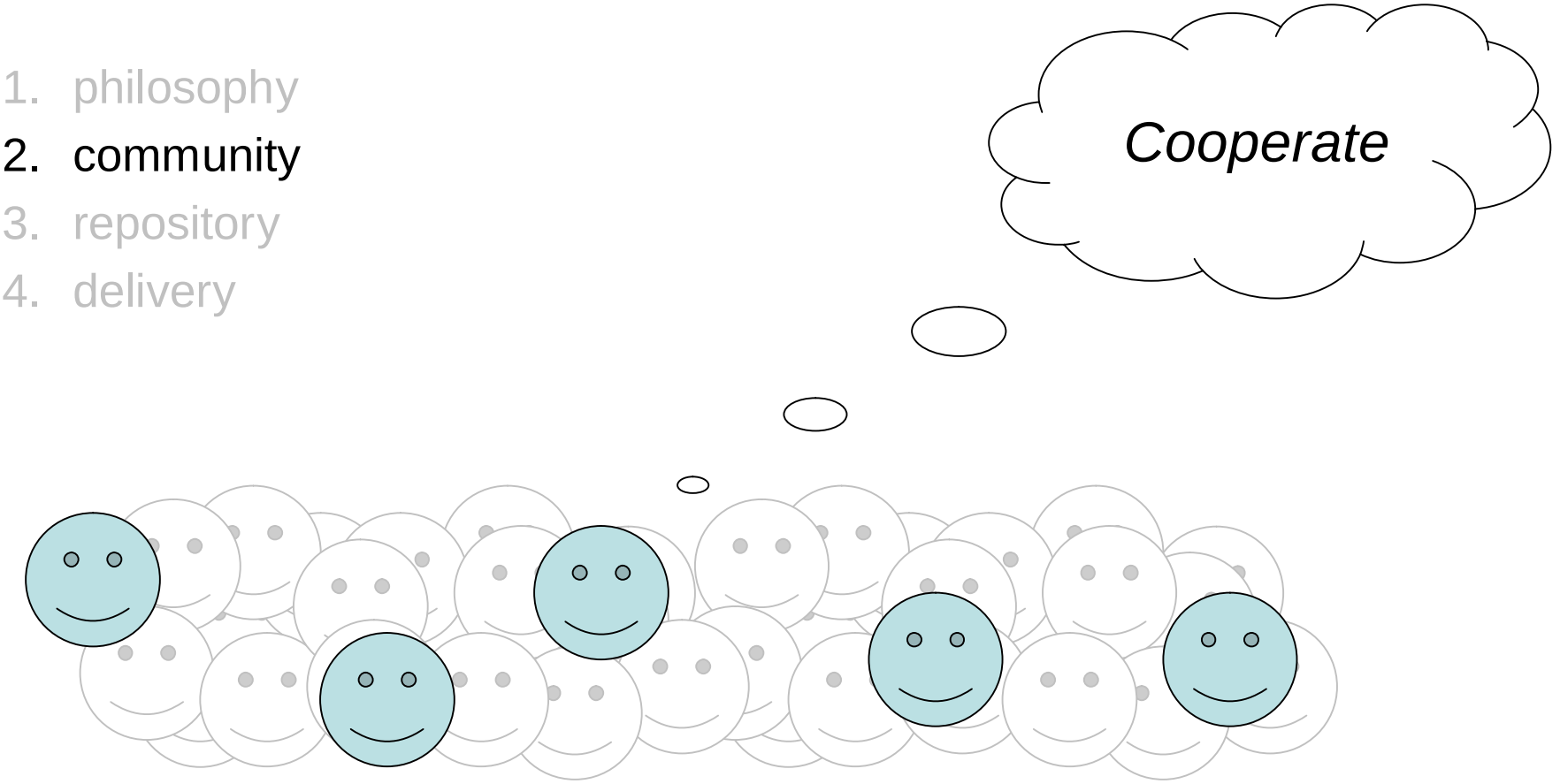
1. philosophy
2. community
3. repository
4. delivery



When you work on complex matters you soon discover that some things are too big to handle on your own. That you constantly reinvent the wheel. That others seem to reinvent your wheels. That some important wheels never get invented because they are too big to handle for a single project. The solution is to collaborate across the artificial boundaries of projects.

What is OpenEarth: community

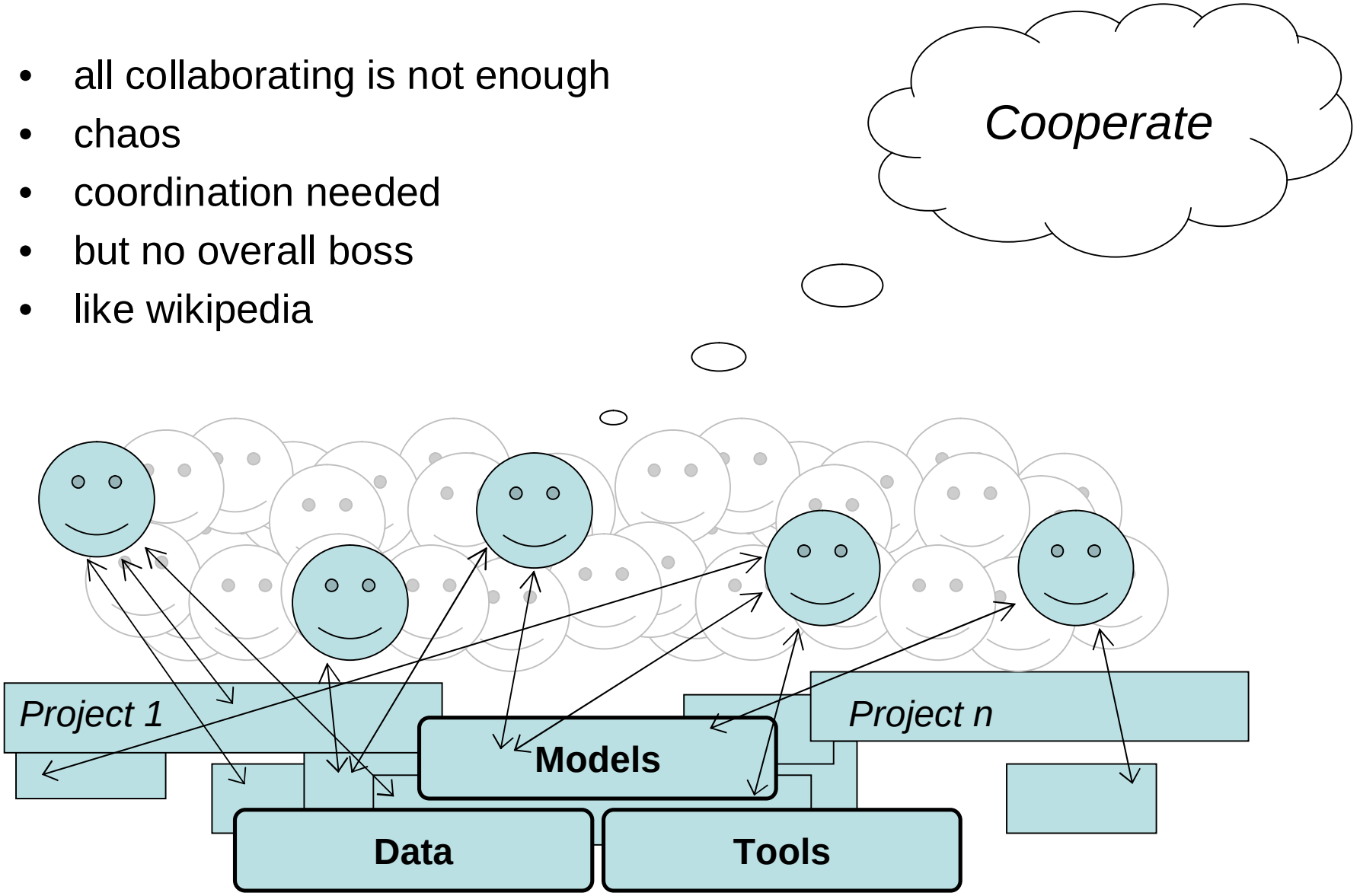
1. philosophy
2. community
3. repository
4. delivery



Fortunately there are usually more people than you think who are prepared to team up in related topics. So share the wheels you invented, never invent a wheel again, and embark a mission to invent those very big wheels we all need. You can split the required investment over different projects that afford the money otherwise needed for reinvention of wheels. Like this, OpenEarthTools made an advanced Google plot toolbox, a coordinate conversion toolbox, etc.

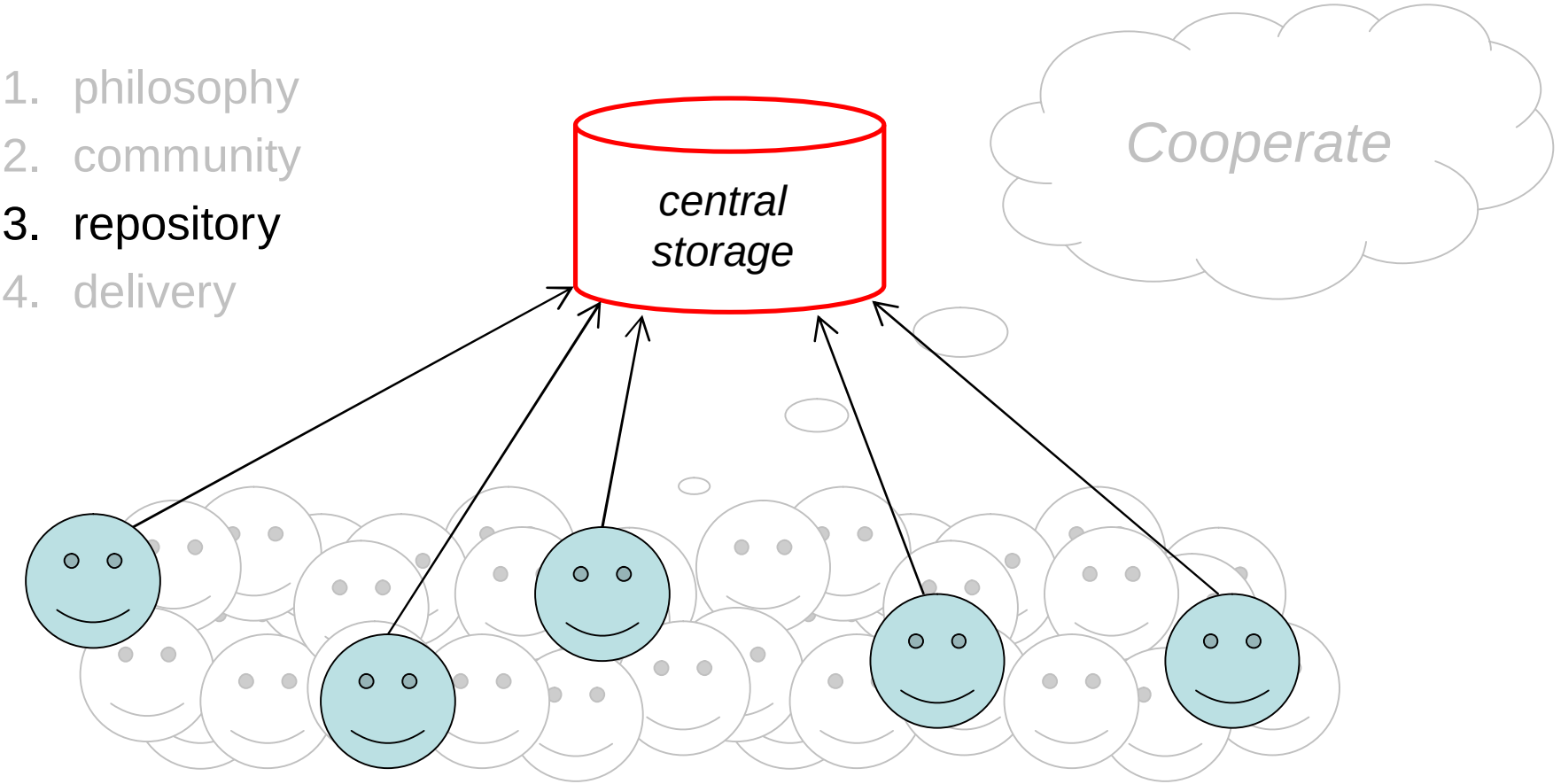
What is OpenEarth: community needs structure

- all collaborating is not enough
- chaos
- coordination needed
- but no overall boss
- like wikipedia



What is OpenEarth: repository

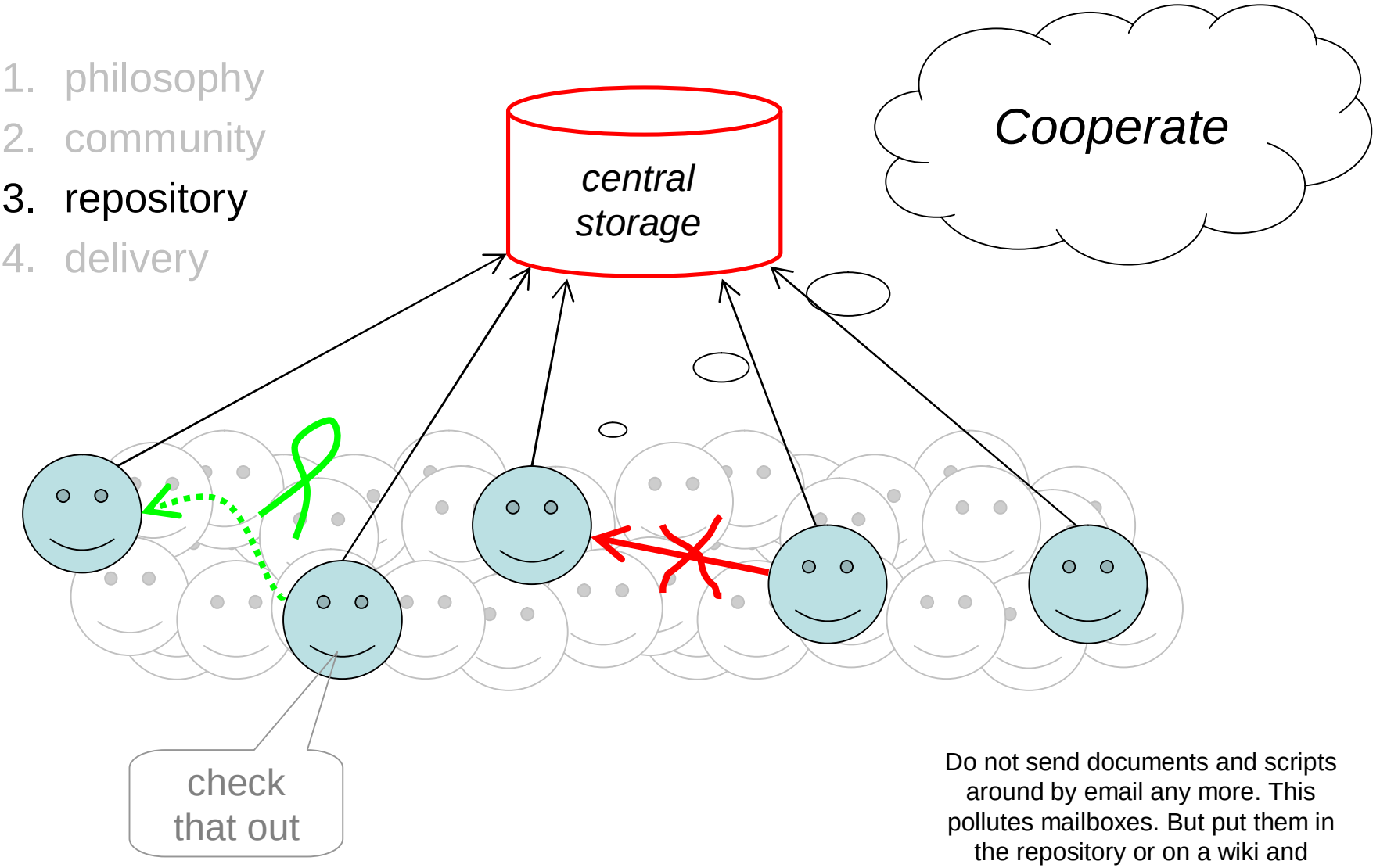
1. philosophy
2. community
3. repository
4. delivery



When working with a team, it is important to keep good track of the latest version of a tool/document. When working in pairs of 2 it is easy: either you work on it or the other person. In groups of 3 and bigger a formal system is required. Especially when more then 1 person is working on it at the same time. A repository allows more persons to work on it simultaneously, and it takes care of the essential merging process.

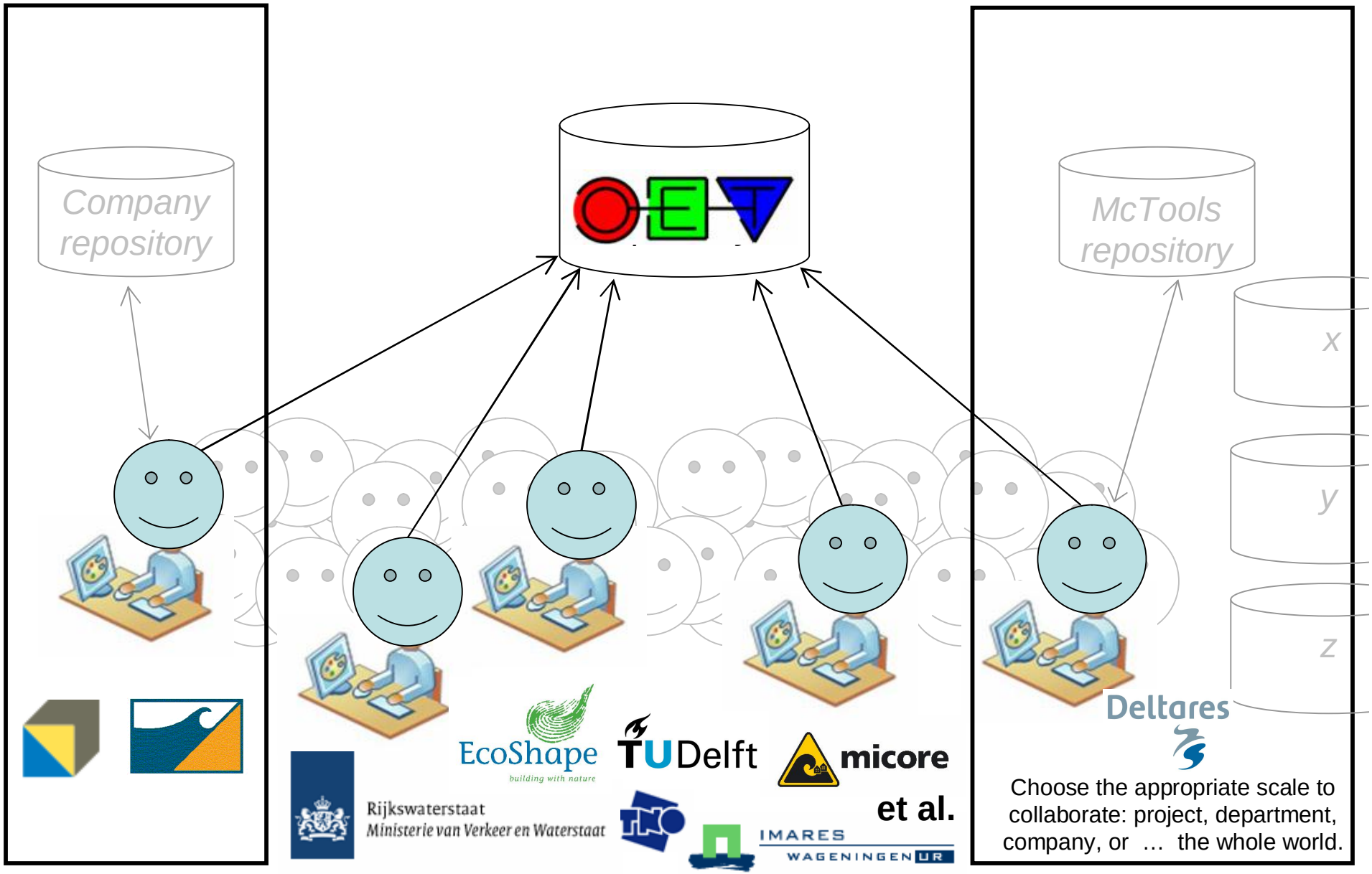
What is OpenEarth

1. philosophy
2. community
3. repository
4. delivery

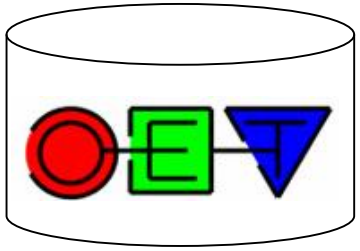


Do not send documents and scripts around by email any more. This pollutes mailboxes. But put them in the repository or on a wiki and inform colleagues where to get the latest version.

What is OpenEarth



What is OpenEarth: the technology



Repository username

- Get <u>username and password.</u>
- Why, OpenEarth is open, right? Yes, but not anonymous.

Every file is logged …

Log Messages - F:\checkouts\OpenEarthTools

From: 23-10-2008 To: 23-03-2009 Messages, authors and paths

Revision	Actions	Author	Date	Message
304		baart_f	01:55:58, maandag 23 maart 2009	Changes for compatibility with Ualg. Compatibility function for UCIT.
303		boer_g	15:28:45, vrijdag 20 maart 2009	Add more meta-info (lat lon), and test indirect dimension mapping.
302		ormondt	13:47:42, vrijdag 20 maart 2009	SuperTrans moved to OpenEarthTools
301		ormondt	13:43:11, vrijdag 20 maart 2009	
300		ormondt	12:35:26, vrijdag 20 maart 2009	SuperTrans moved to OpenEarthTools
299		ormondt	12:27:48, vrijdag 20 maart 2009	findinstruct and findstrinstruct added.
298		ormondt	12:27:17, vrijdag 20 maart 2009	Several gui functions added.
297		boer_g	11:25:07, vrijdag 20 maart 2009	updated oetnewfun lgpl block (removed postal adress), and added (l)gpl info.
296		heijer	10:44:08, vrijdag 20 maart 2009	exampleStochastVar.m: option added to deactivate (= set to deterministic) one or more variables
295		boer_g	18:05:45, donderdag 19 maart 2009	Fixed loading of table from INP struct from different directory.

… and every line in every file is logged.

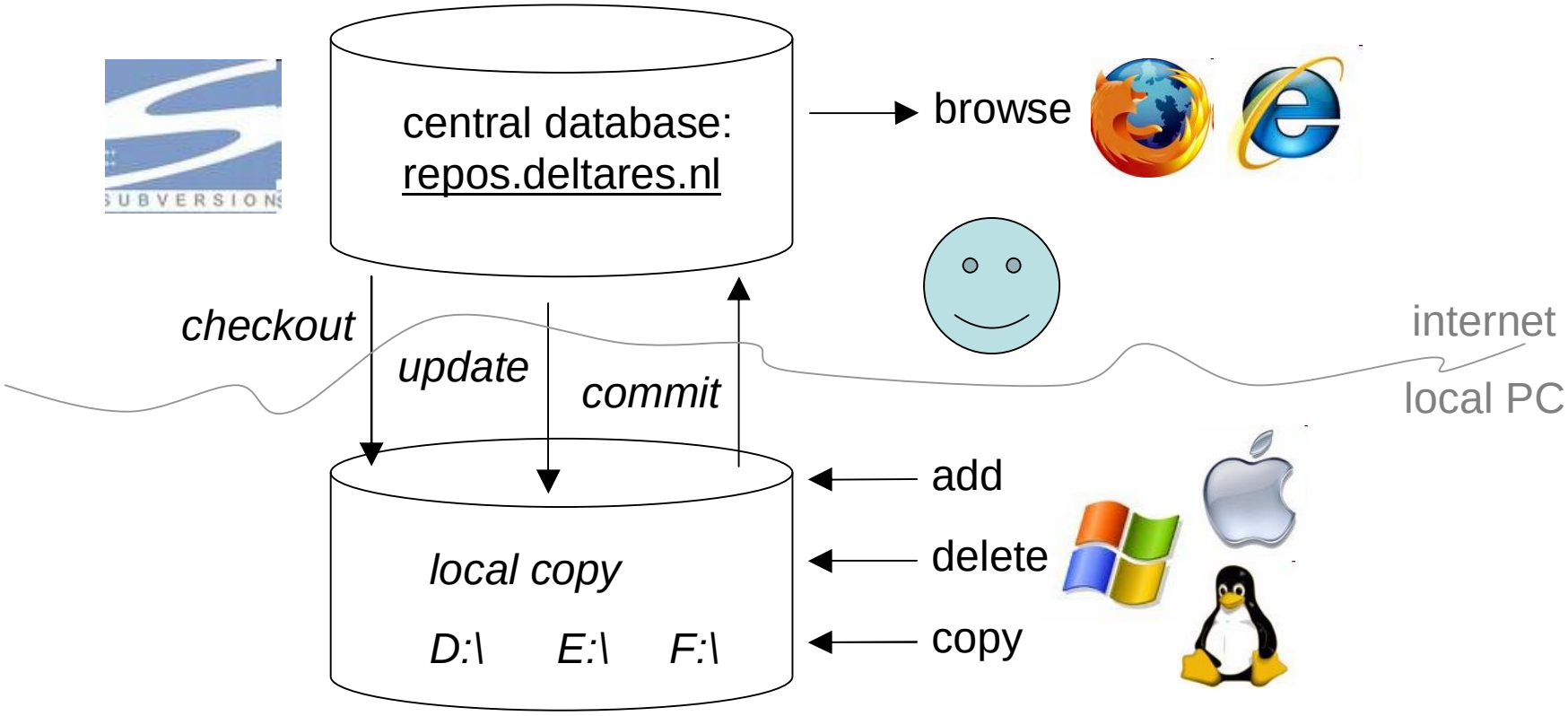
TortoiseBlame - getDuneErosion.m

File Edit View

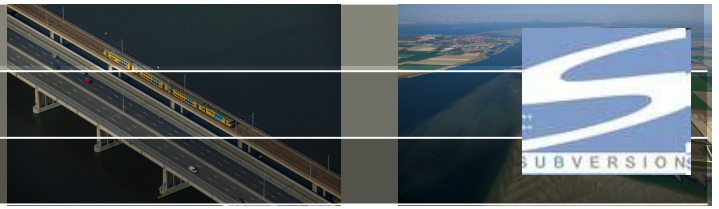
Revision	Author	Line	
2120	geer	93	%% Initiate variables
975	heijer	94	writemessage('init');
975	heijer	95	
1724	geer	96	NoDUROSResult = false;
1307	heijer	97	getdefaults(...
1307	heijer	98	'xInitial', [-250 -24.375 5.625 55.725 230.625 1950]', 1,...

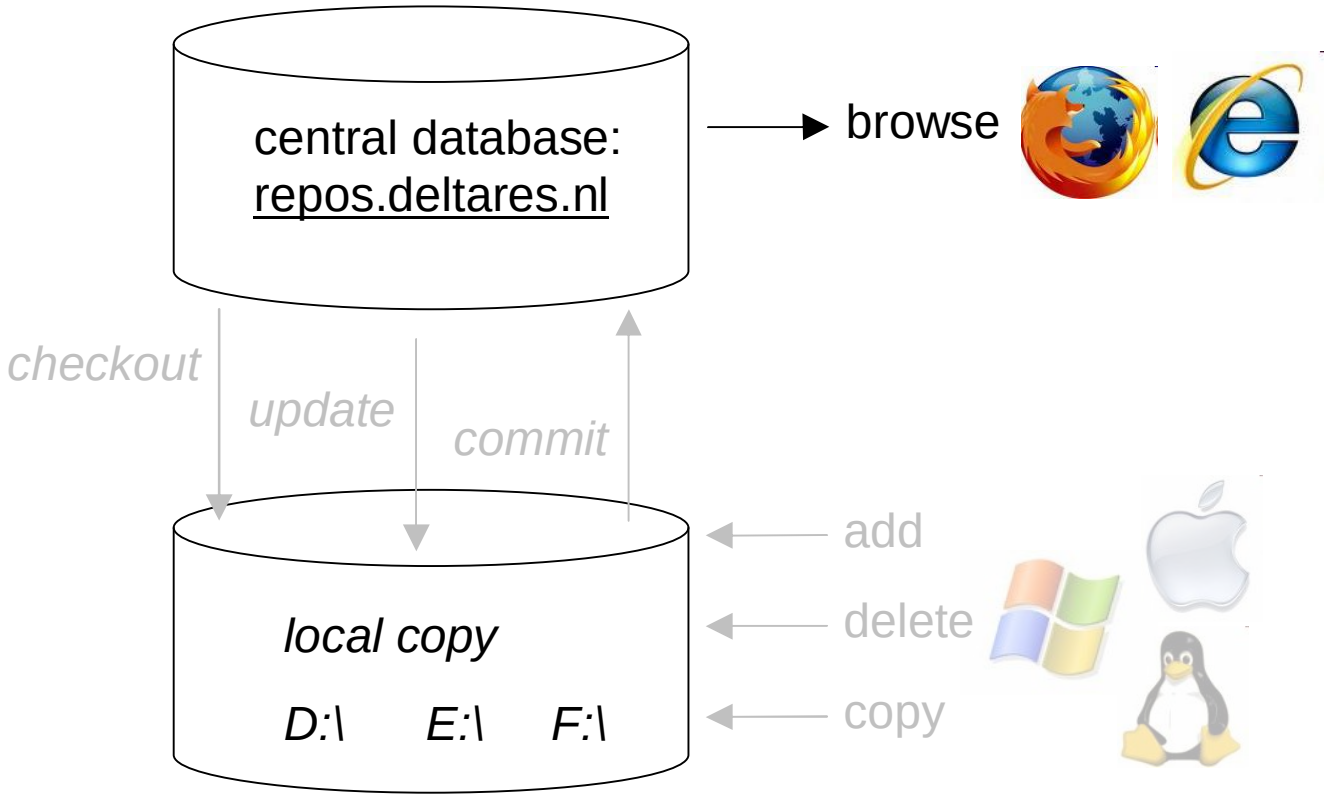
- Everyone has write acces to facilitate lots of micro-improvements.
- This allows anyone can be allowed to join.

REPOSITORY *basics*



REPOSITORY *browse*





Repository main directories

- Each repository has
  - **trunk**: contains ongoing beta-release of main developments
    - > submit your work every day
    - > get your code here if you are a developer
  - **tags**: contains tested alpha version of (parts of) the trunk
    - > created every once in a while: few times per year
    - > official release with separate version numbers (e.g. 2009a)
    - > often compiled versions are included
    - > get your code here if you are user only
  - **test**: files required for testing a tag (regression tests + data)
  - **sandbox**: to practice with
  - **branches**: side developments
    - > might be merged into trunk one day if successful
    - > do highly-frequent ‘chat’-like submits only here

REPOSITORY *browse*

Collection of Repositories - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://repos.deltares.nl/repos/

Google

Revision 0

Collection of Reposito

Auxilium/
GWSobek/
HKV/
Maconomy/
MoS2/
NHI/
OpenEarthData/
OpenEarthModels/
OpenEarthRawData
OpenEarthTools/
RADInstruments/
Rijn-Maas/
RtcModule/
Sobek-RE/
TKW/
WVC/
XBeach/

Done

/ - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://repos.deltares.nl/repos/OpenEarthTools/

Google

Version

Revision 514

/

branches/
sandbox/
tags/
trunk/
tutorials/

Powered by Subversion 1.4.6 (

/trunk/matlab - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://repos.deltares.nl/repos/OpenEarthTools/trunk/matlab/

Undo
Cut
Copy
Paste
Delete
Select All

Revision 514

/trunk/matlab

[Parent Directory]

applications/
docs/
general/
io/
addpathfast.m
oetsettings.m

Powered by Subversion 1.4.6 (r28521)

Mozilla Firefox

File Edit View History Bookmarks Tools Help

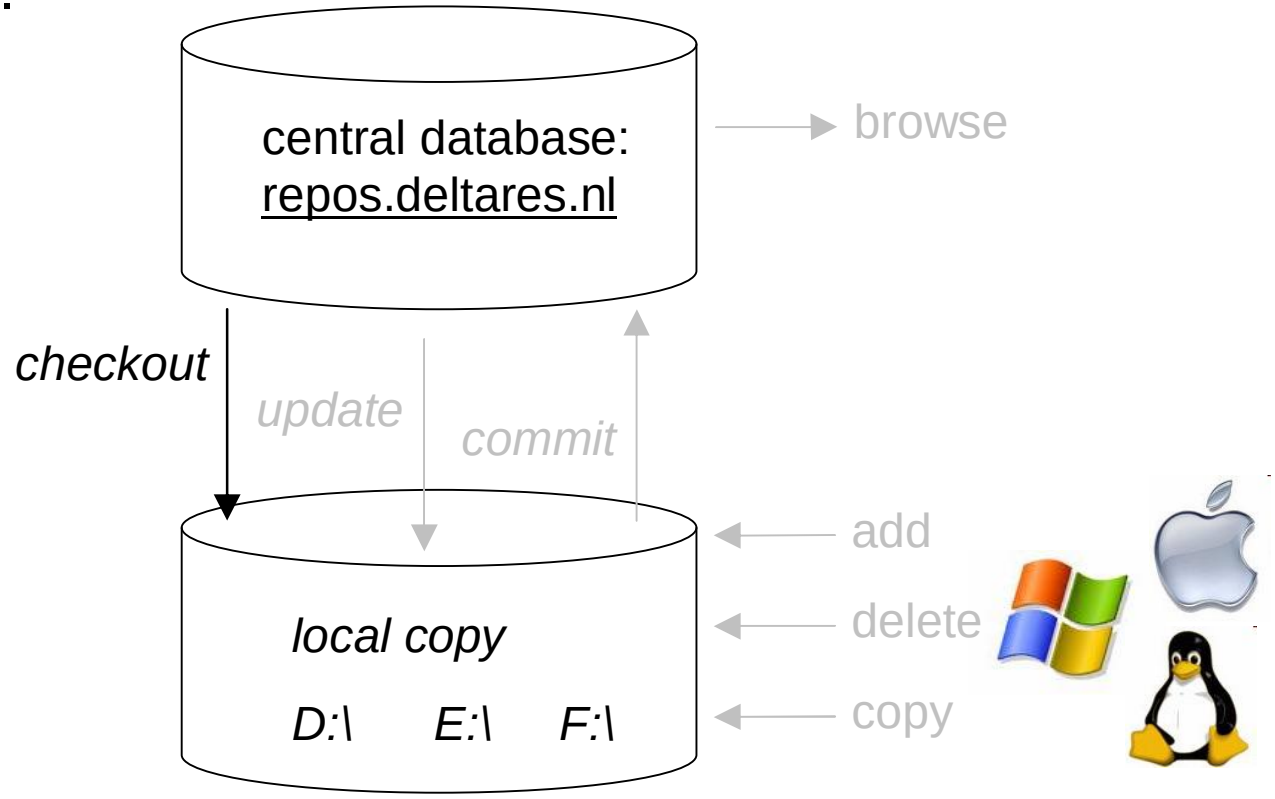
https://repos.deltares.nl/repos/OpenEarthTools/trunk/m

```
function oetsettings(varargin)
%OETSETTINGS   enable the OpenEarthTools matlab tools by adding all re
%
% OpenEarthTools is a collection of open source tools
% intended to be licensed under the GNU (Lesser) Public License
% (<a href="http://www.gnu.org/licenses/licenses.html">http://www.gnu.
%
% For more information on OpenEarthTools refer to the following source
%
% * wiki:        <a href="http://OpenEarth.deltares.nl"
% * repository:  <a href="https://repos.deltares.nl/repos/OpenEarthTool
% * help blocks: Scroll through the OpenEarthTools directories and rea
```

REPOSITORY

SVN Checkout...

- Except for a zipped release version in \tags, it is not handy to get files one by one with a browser: Get them all at once with free Subversion client program.



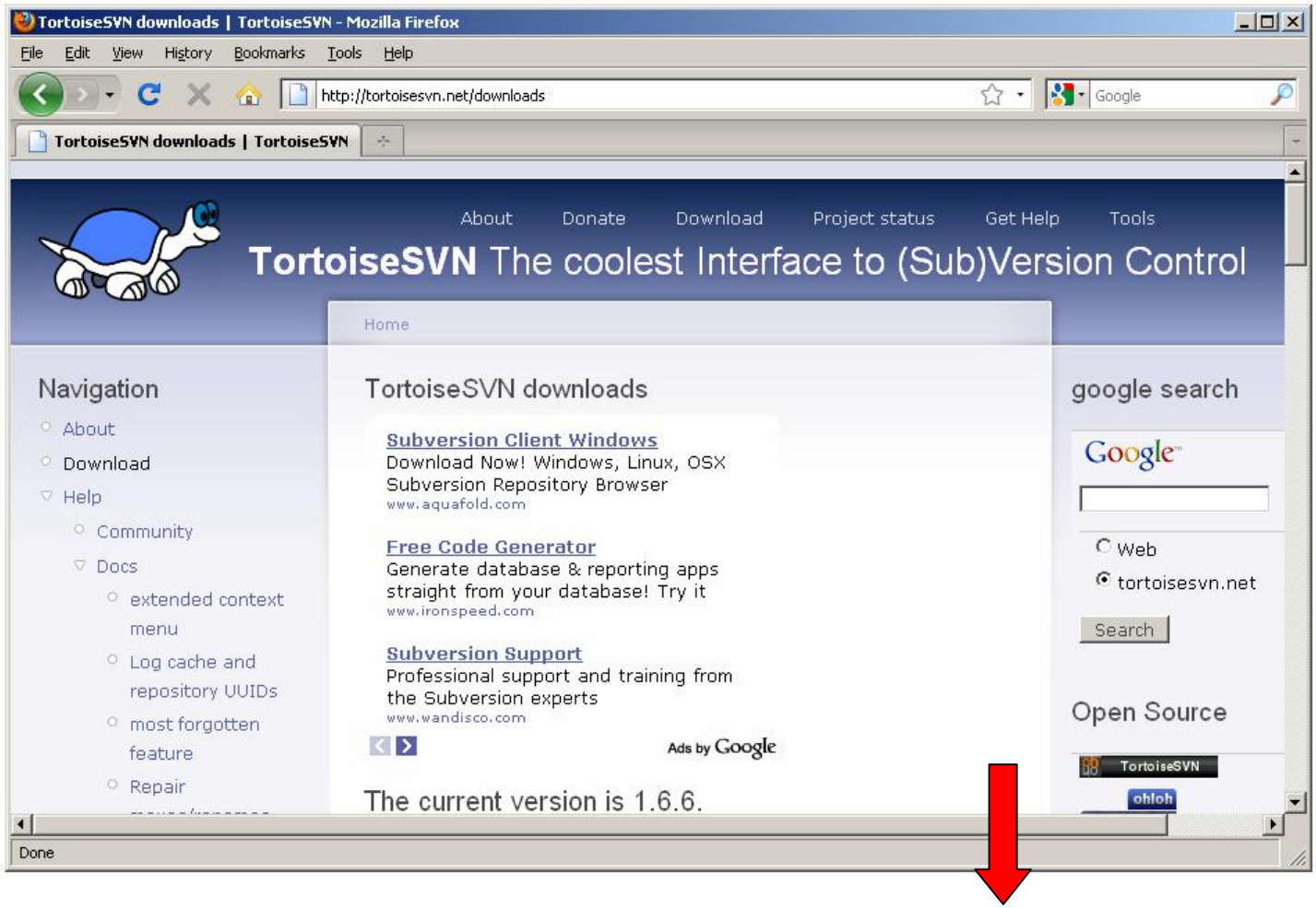
REPOSITORY *checkout*

- Download and install **Tortoisesvn** (http://tortoisesvn.net/)

REPOSITORY *checkout*

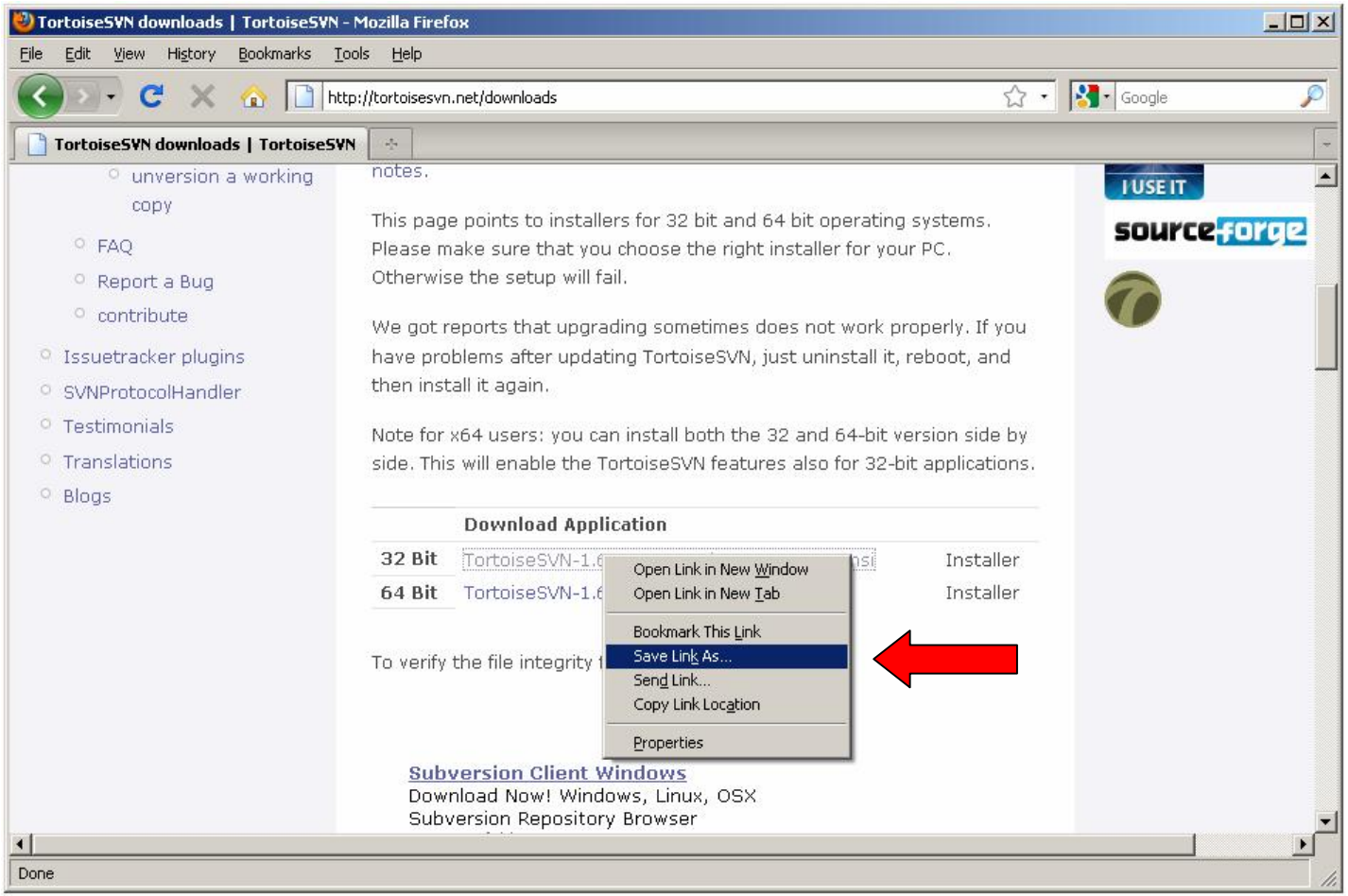
- Download and install **Tortoisesvn** (http://tortoisesvn.net/)

  scroll down



REPOSITORY *checkout*

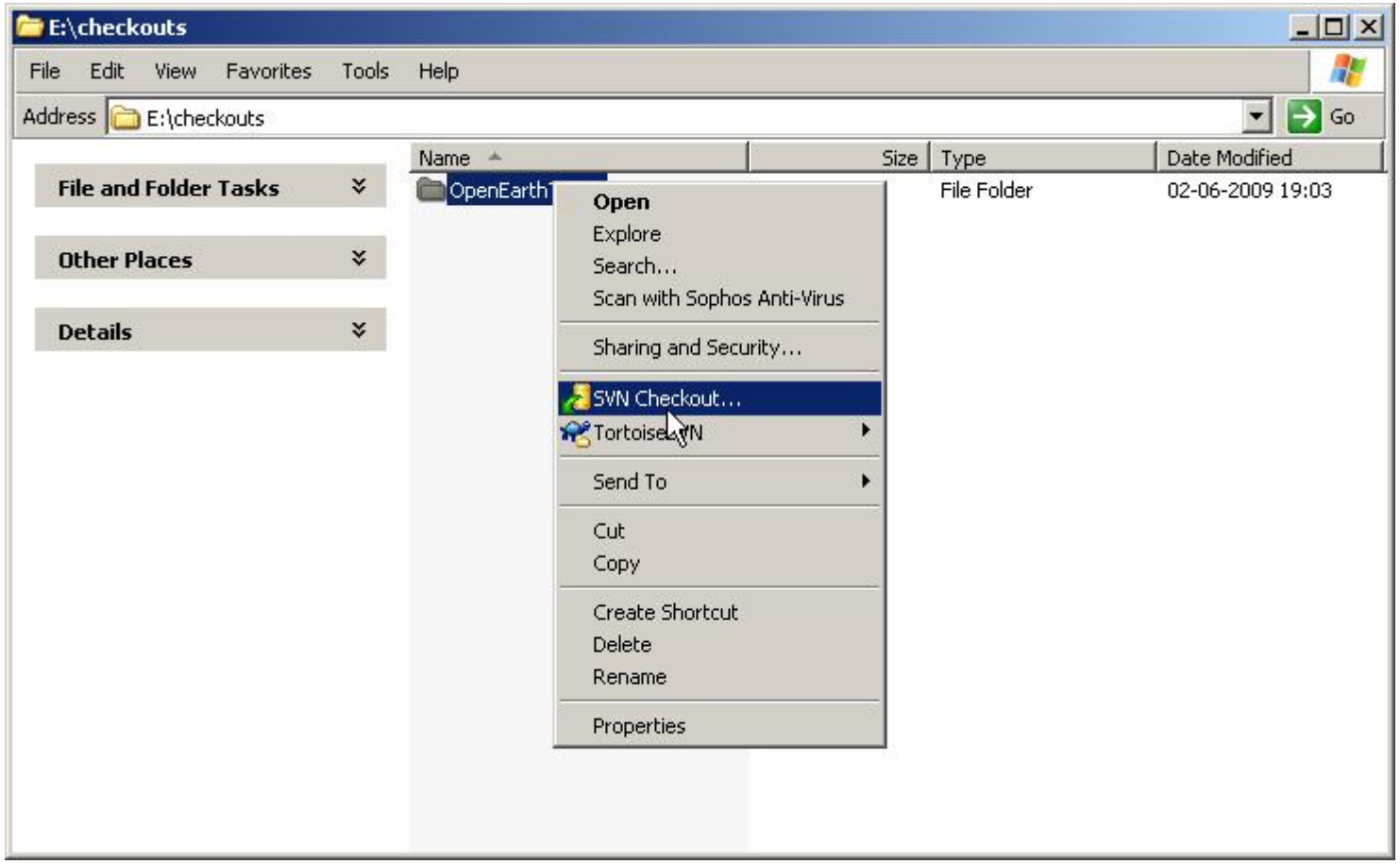
- Download and install **Tortoisesvn** (http://tortoisesvn.net/)



REPOSITORY

SVN Checkout...

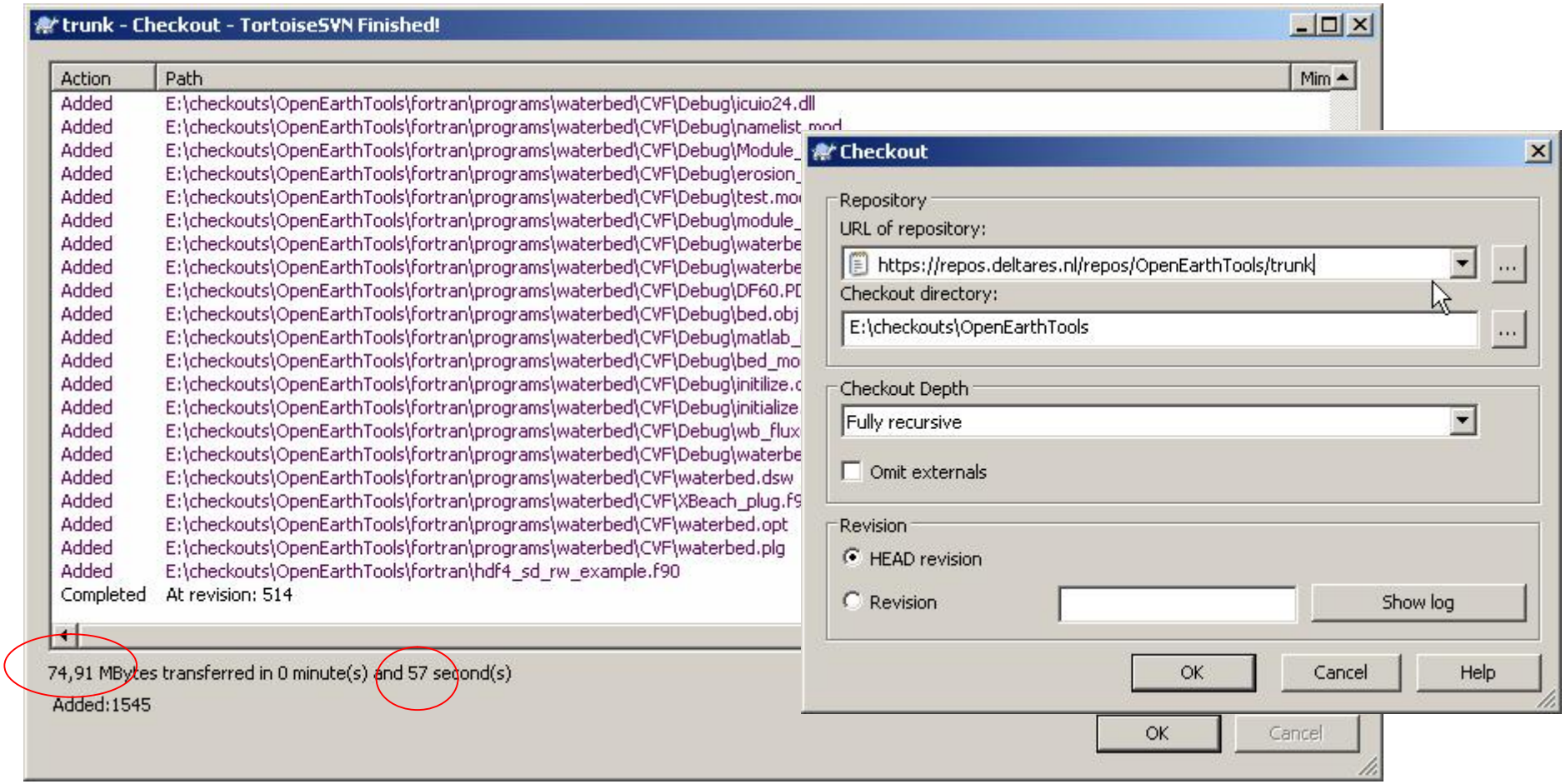
- After installing and rebooting …
- Make a checkout in e.g. F:\checkouts\
- No need to back this up, it’s only a copy ...



REPOSITORY

SVN Checkout…

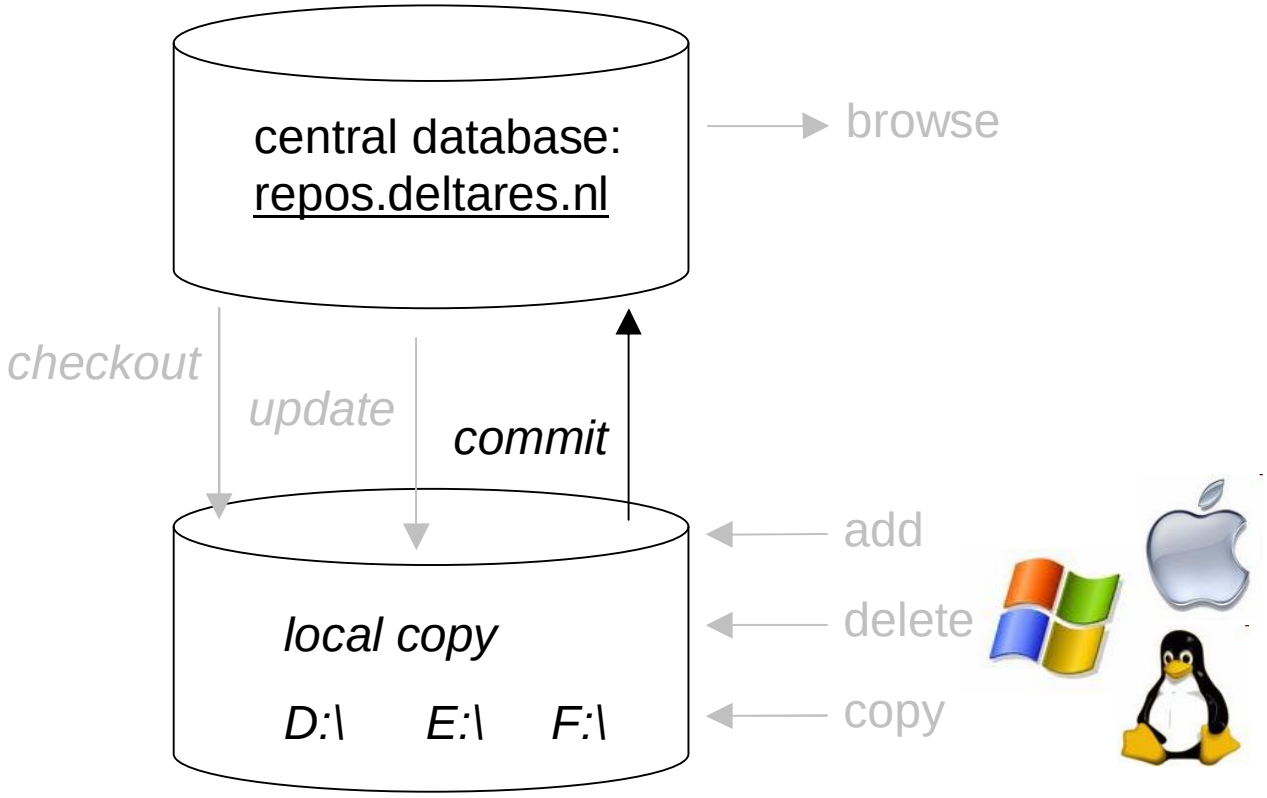
- Copy url from browser (case sensitive!)
- Make sure that the tree of local copy resembles the server tree



REPOSITORY

SVN Commit...

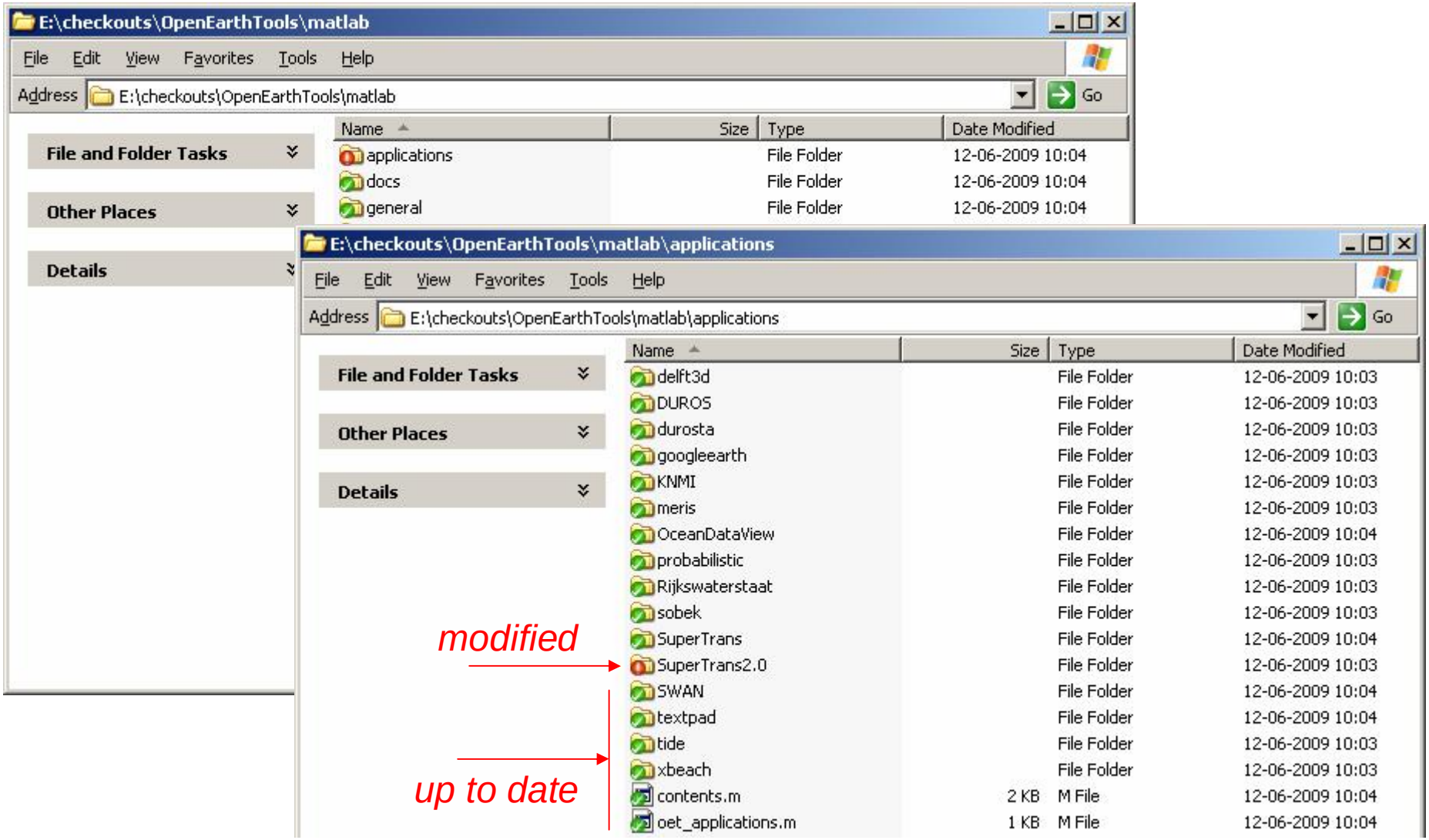
- Do not commit in the \tag and \trunk unless you are sure of yourselves.
- You can practice in the \sandbox directory: send mail for write access.



REPOSITORY

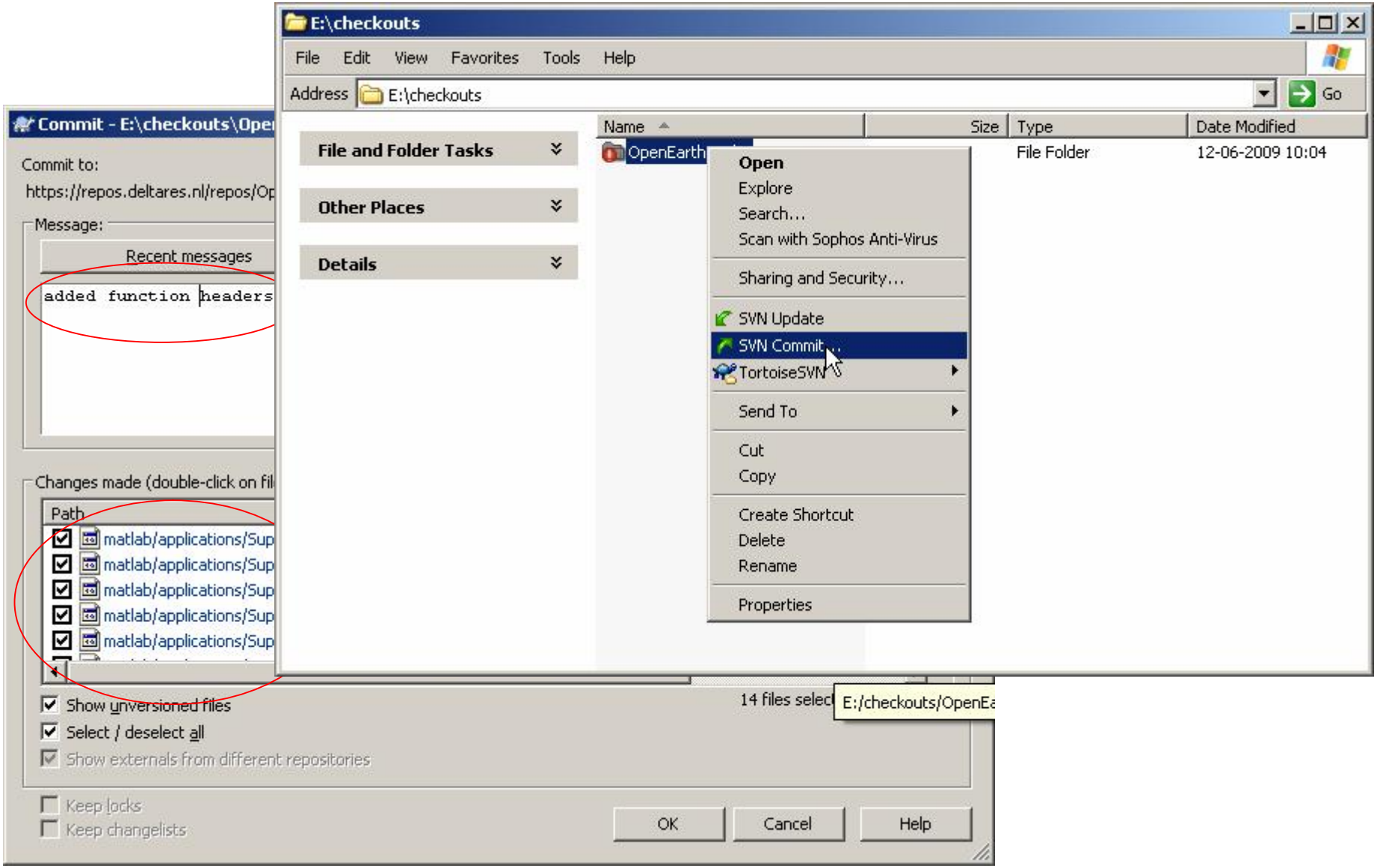
SVN Commit...

- The icon shows the status of a file: up-to-date or changed.

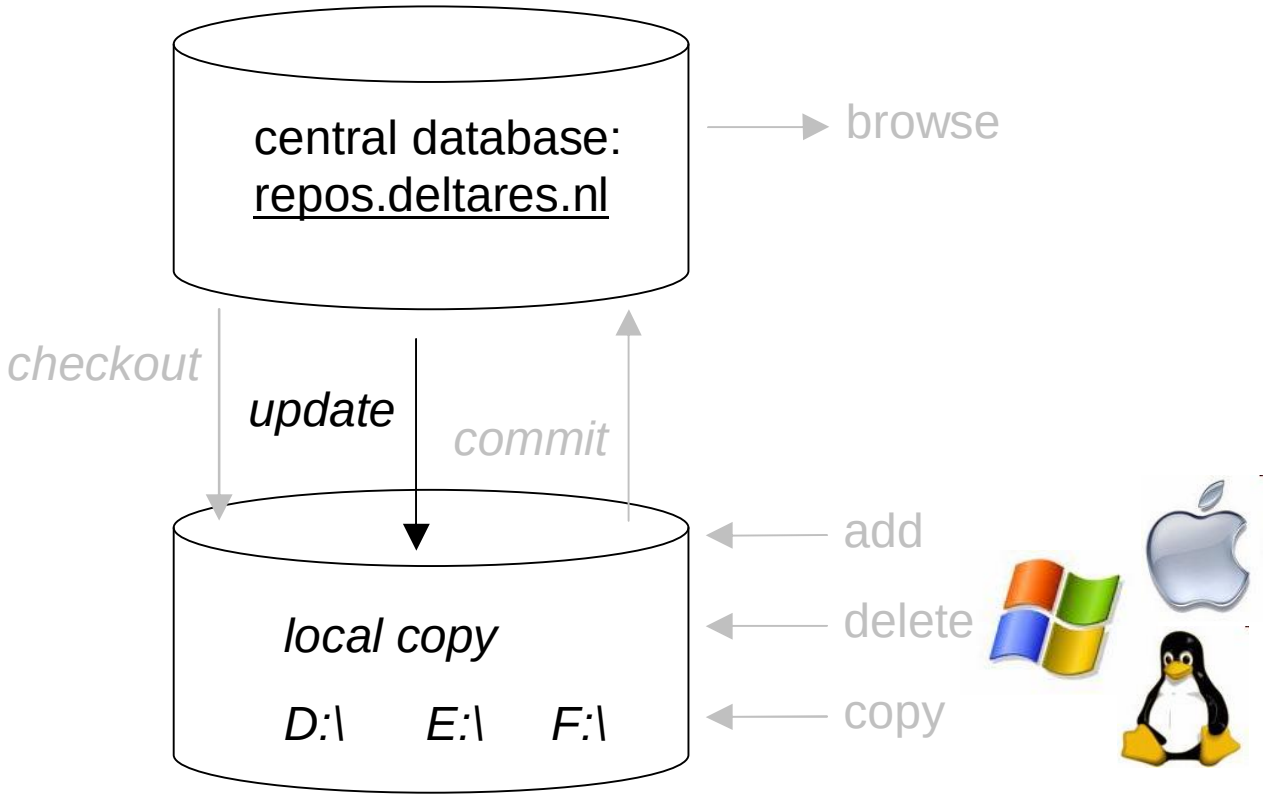


REPOSITORY

SVN Commit...

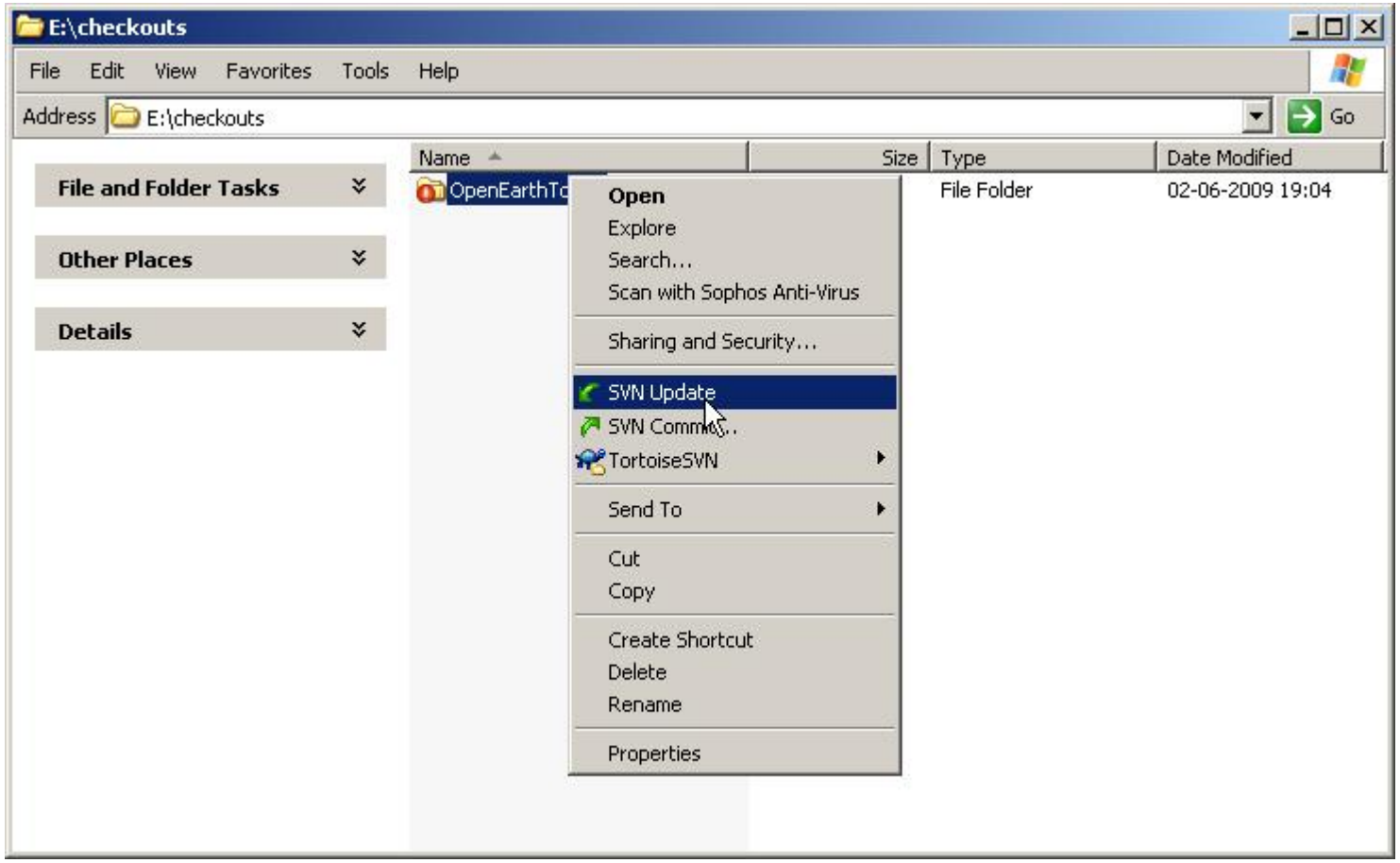


- Update the trunk regularly.



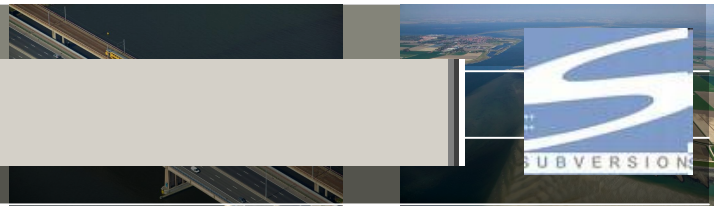
REPOSITORY

SVN Update



REPOSITORY

SVN Update



Log Messages - F:\checkouts\OpenEarthTools

From: 21-04-2009 To: 12-06-2009

Revision	Actions	Author	Date	Message
515		boer_g	10:33:27, vrijdag 12 juni 2009	added function headers
514		boer_g		
513		boer_g		
512		damsma		
511		damsma		
510		boer_g		
509		damsma		
508		hoonhout		
507		geer		
506		geer		
505		geer		
504		boer_g		
503		hoonhout		
502		geer		
501		boer_g		
500		boer_g		
499		m.vankoningsveld@tudelft.nl		
498		boer_g		
497		boer_g		
496		boer_g		
495		geer		
494		boer_g		
493		boer_g		
491		blaas		
489		boer_g		
488		boer_g		
487		b.t.grasmeijer@arcadis.nl		
486		boer_g		
485		boer_g		
484		baart_f		
483		hoonhout		

added function headers

Action	Path	Copy from pa
Modified	/trunk/matlab/applications/SuperTrans2.0/conversion/ConvertCoordinatesCheckInput.m	

F:\checkouts\OpenEarthTools - Update - TortoiseSVN Finished!

Action	Path
Command	Update
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\convertCoordinatesNew.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\data\supertrans_csv2mat.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesFindEllips.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesFindConversionPara
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesFindDatum.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesCheckInput.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesProjectionConvert.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesFindUoM.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesFindCoordRefSys.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesDatumTransform.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesFindCoordSys.m
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesFindDatumTransOpt
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesFindDatumTransPar
Updated	F:\checkouts\OpenEarthTools\matlab\applications\SuperTrans2.0\conversion\ConvertCoordinatesFindGeoRefSys.m
Completed	At revision: 515

505 Bytes transferred in 0 minute(s) and 19 second(s)

Updated:14

Show log...

REPOSITORY *statistics*

Statistics - F:\checkouts\OpenEarthTools

File

Graph type: Commits by date

Commits by date

commits

45
36
27
18
9

10/08 11/08 12/08 1/09 2/09 3/09 4/09 5/09 6/09

month

apache
b.c.vanprooijen@tudelft.nl
b.t.grasmeijer@arcadis.nl
baart_f
blaas
boderie
boer_g
damsma
friocou
geer
heijer
hoonhout
konings
m.vankoningsveld@tudelft.nl
ormondt
pool_ad
roelvin
sonnevi
thiel
w.kanning@tudelft.nl

Authors case sensitive

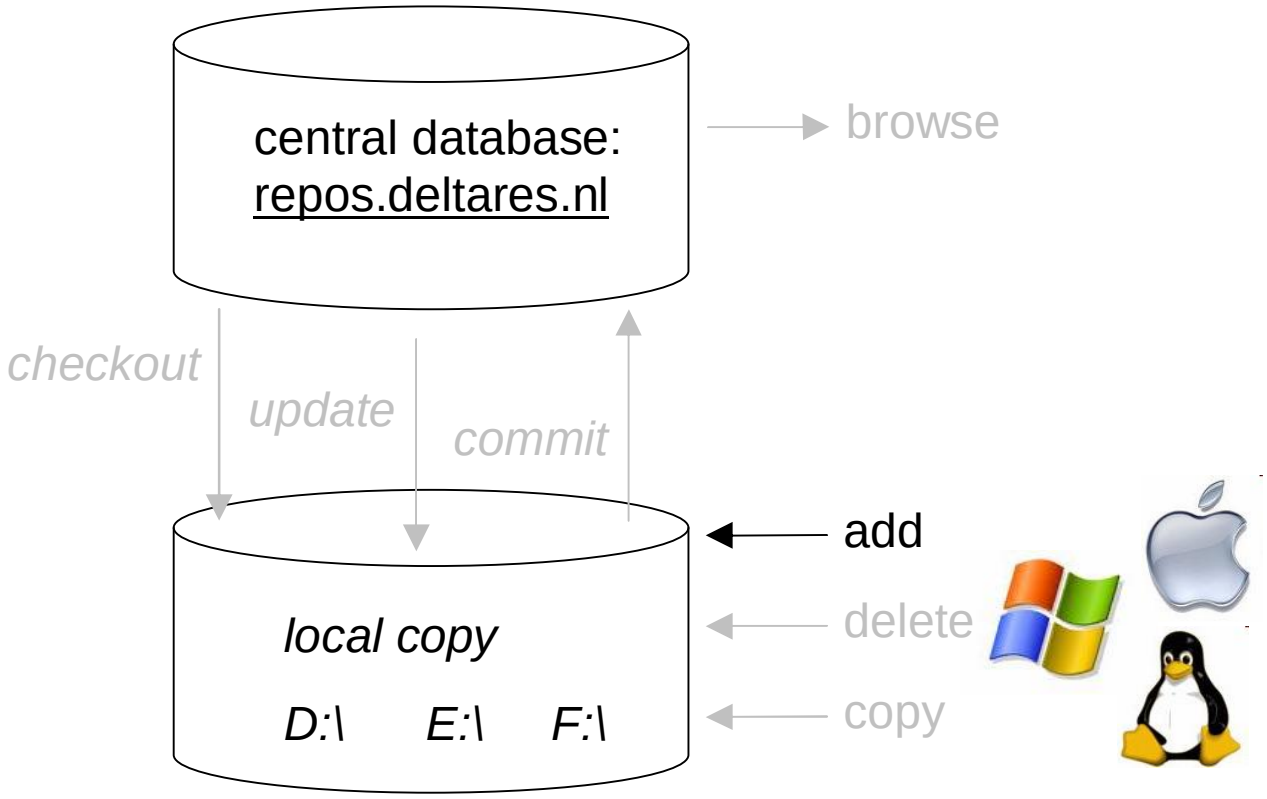
Sort by commit count

authors shown individually:

OK

REPOSITORY

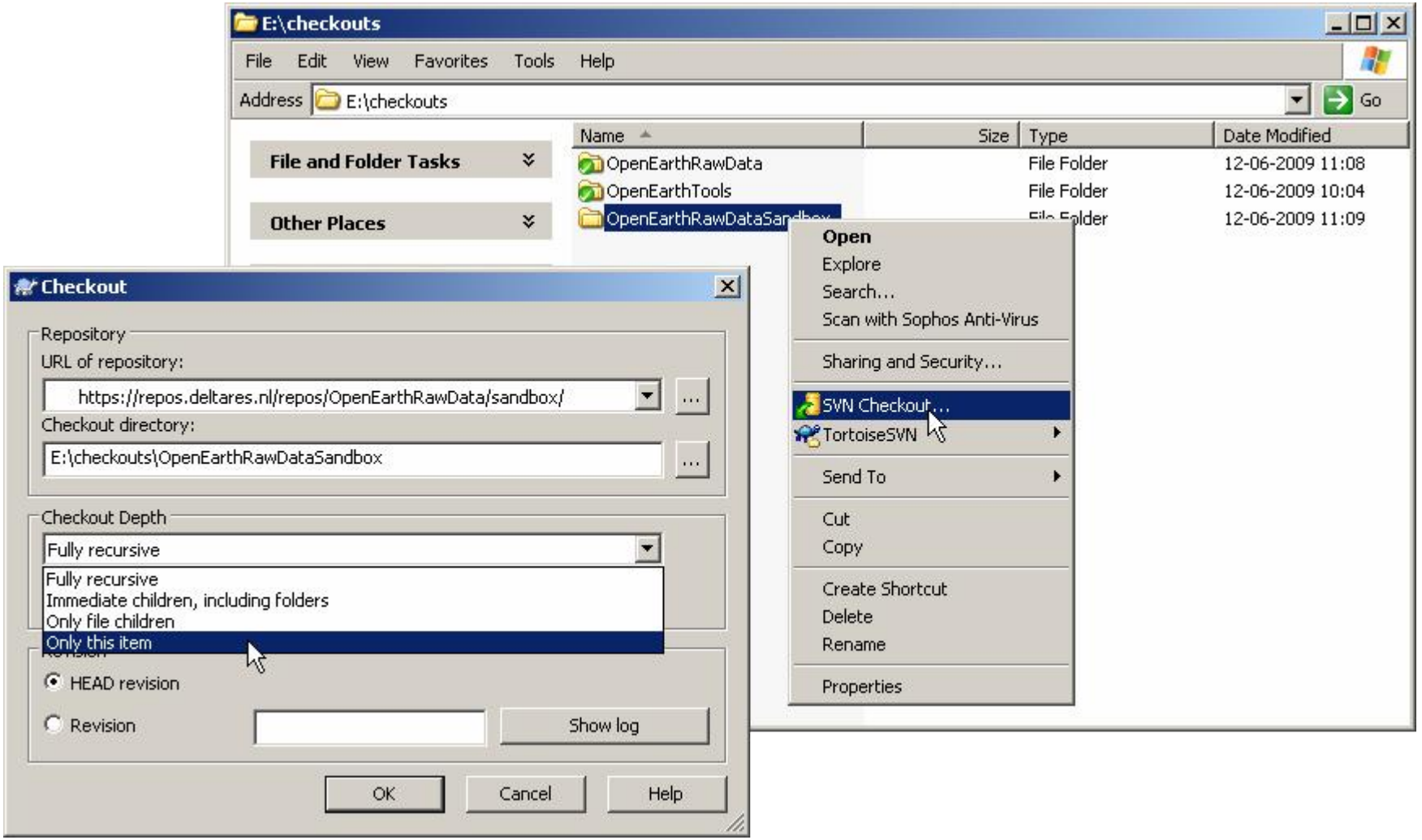
Add...



REPOSITORY

Add…

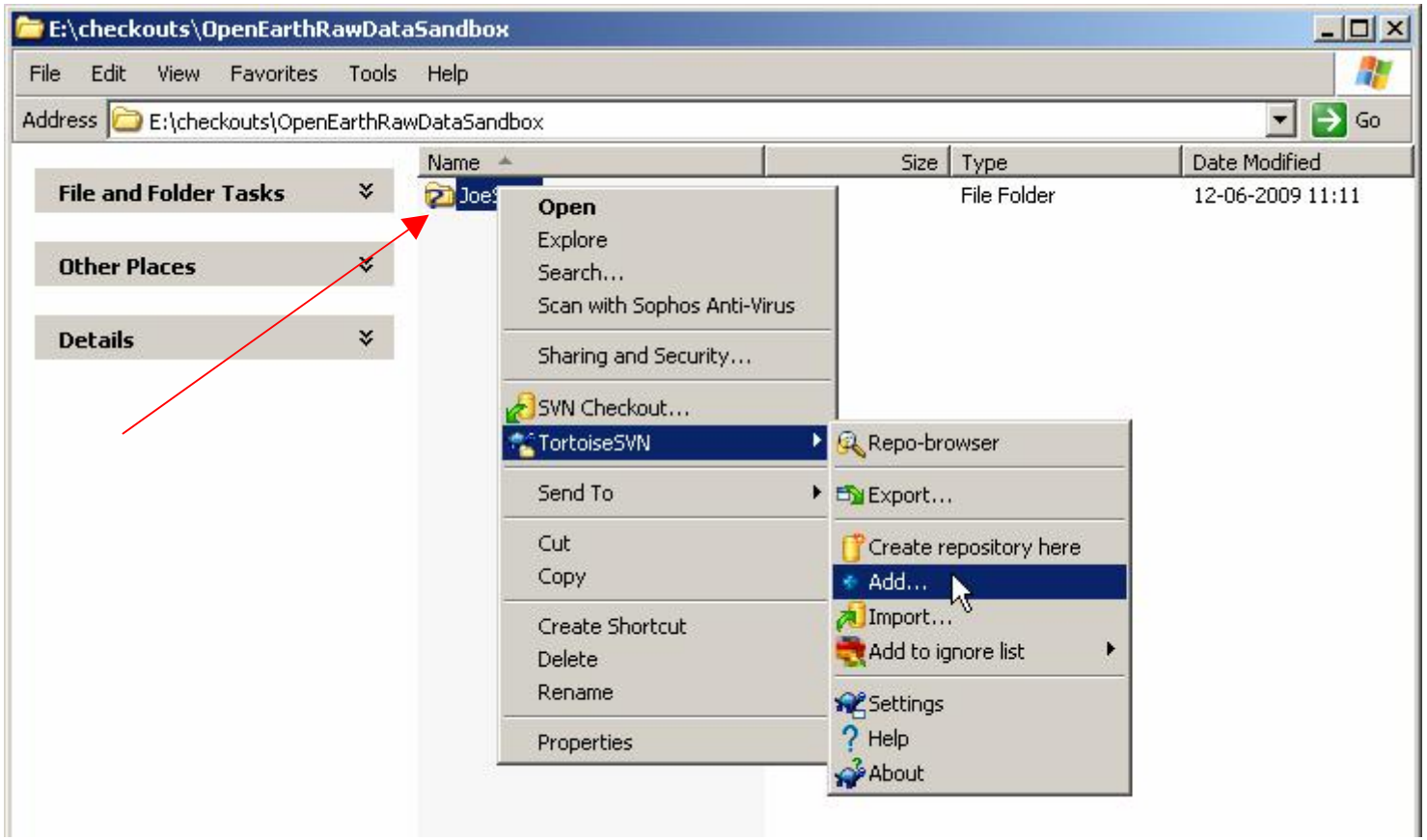
- OpenEarthRawData is very big: don't make a full checkout
- To add a thing, first make an empty checkout of the destination.



REPOSITORY

Add…

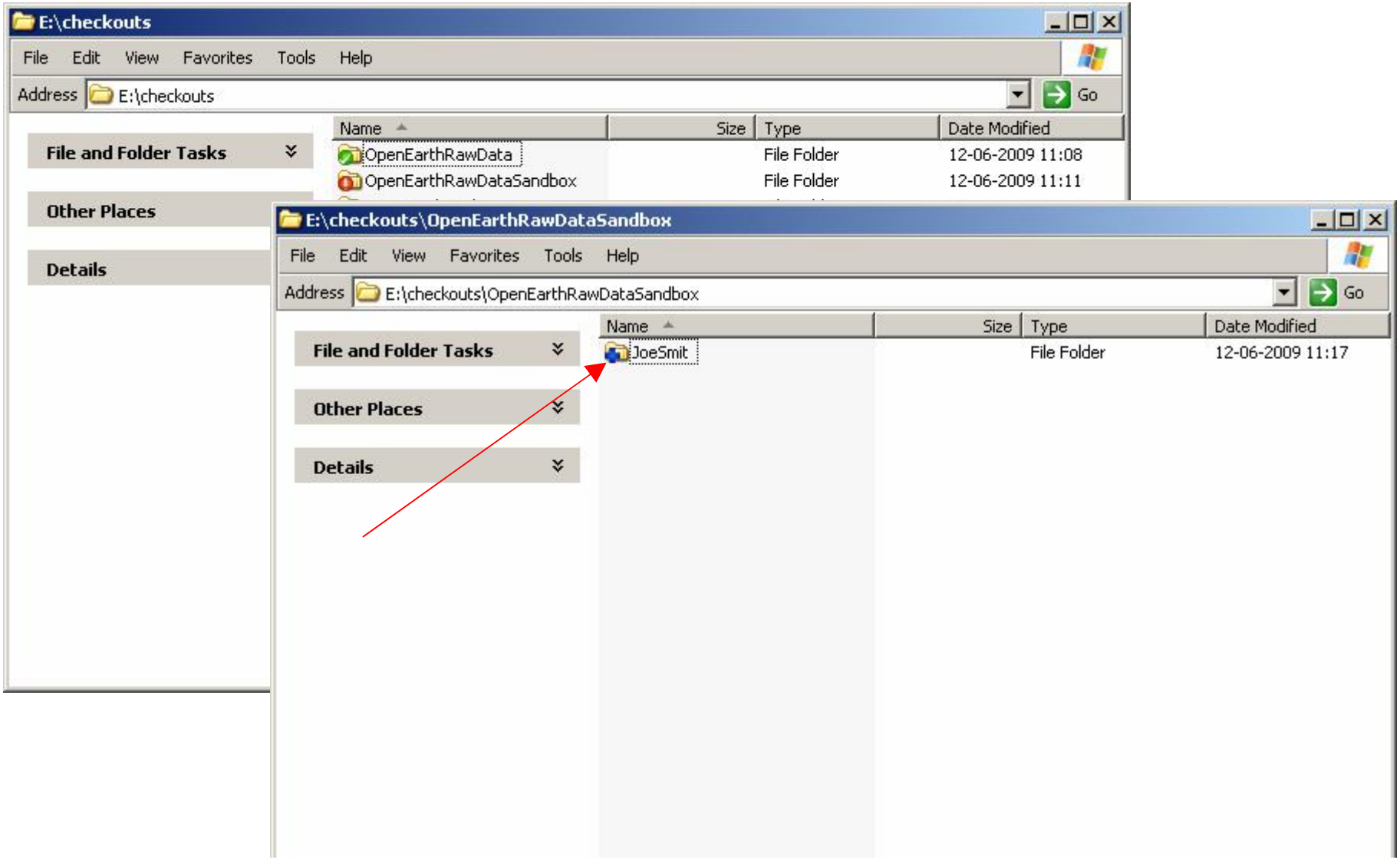
- There are 2 copies of 1 file on your PC:
  - Visible working copy, for editing
  - Hidden shadow copy, to detect changes
- Before adding a file to the server, a shadow copy must be created.
- Allows for offline working



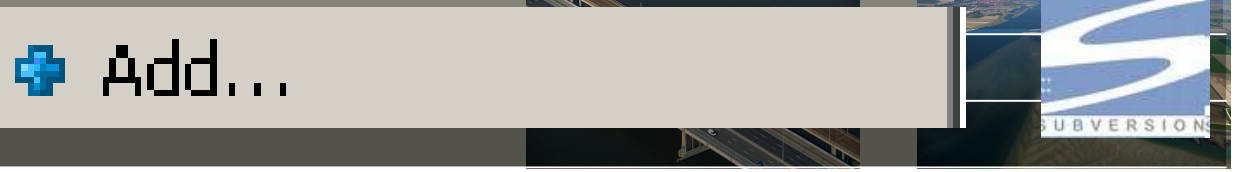
REPOSITORY

Add...

- Now the addition must be simply be committed as any change



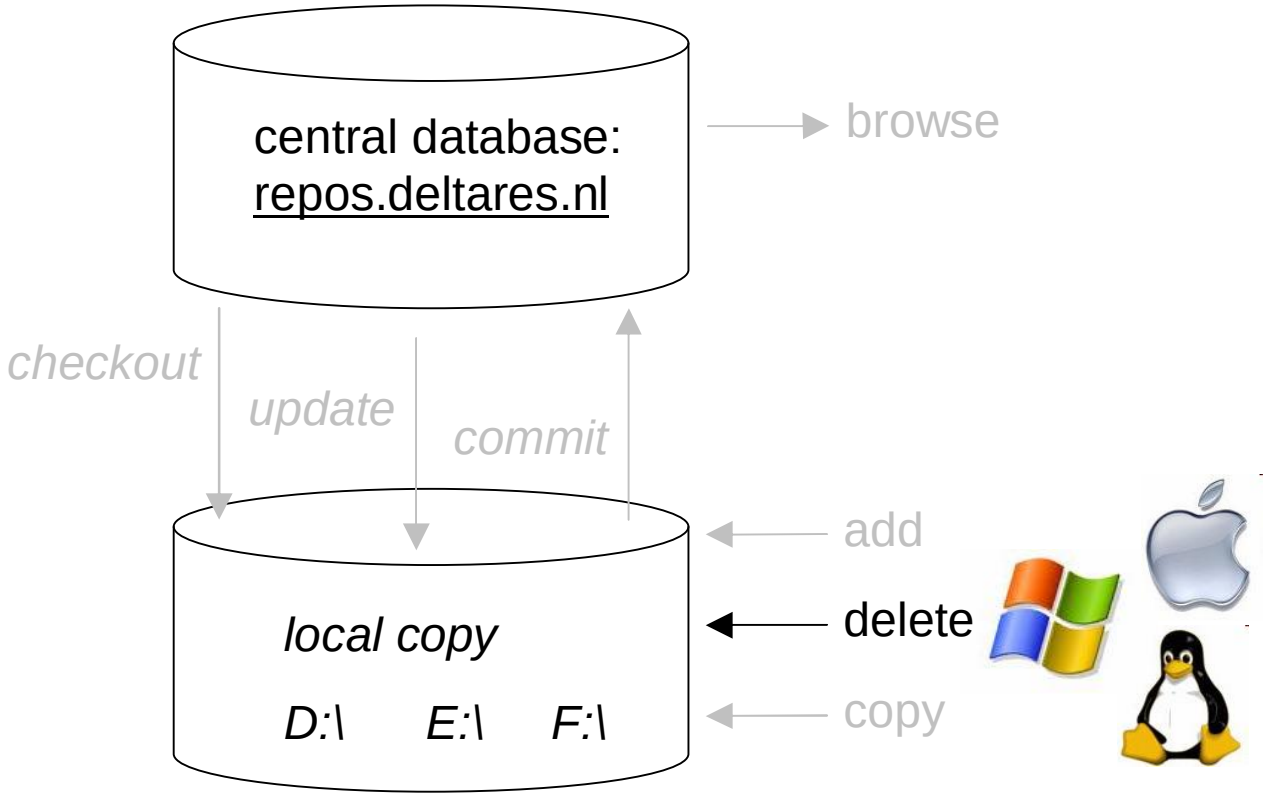
REPOSITORY



- The repository is supposed to be working anytime
- Do not play with the actual repository
- All advanced users will by annoyed by this
- But then, how I can I learn how to work with it?
- Solution: use the sandbox
- Play around at the highest level as much as you like
- And clean up afterwards (delete)
- With your browser:
  http://repos.deltares.nl/repos/OpenEarthTools/sandbox

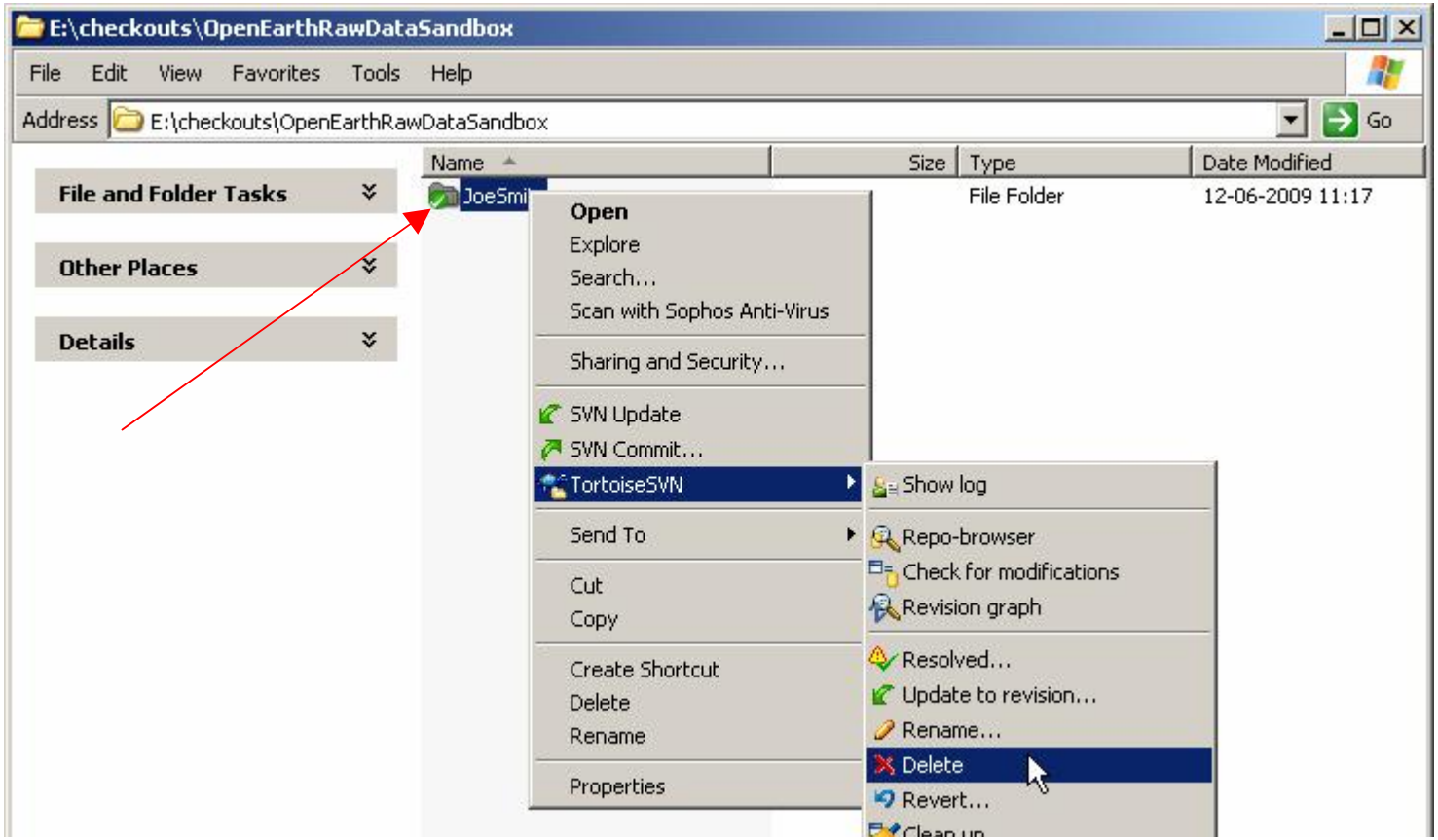
REPOSITORY

Delete



REPOSITORY - Delete

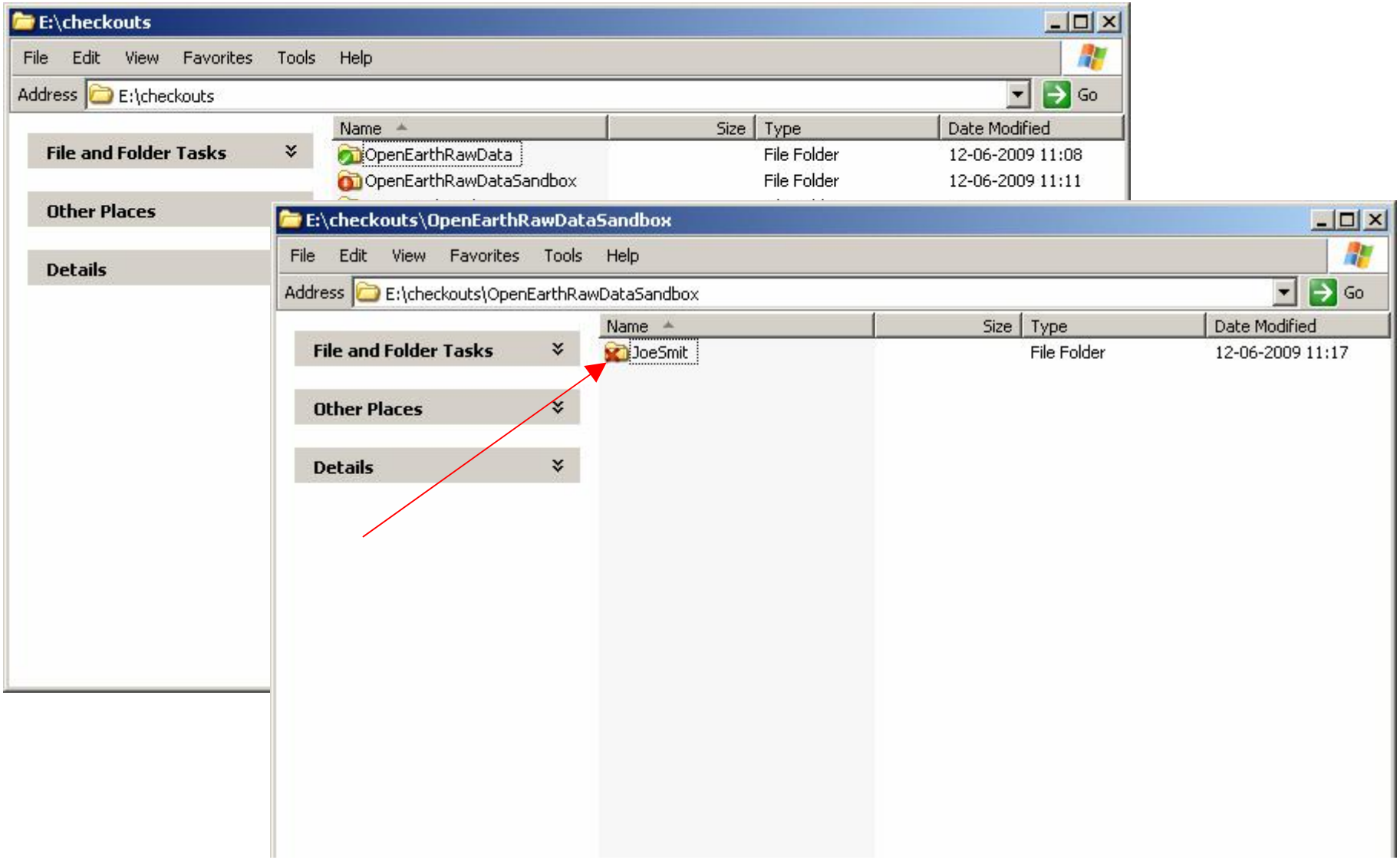
- There are 2 copies of 1 file on your PC:
  - Visible working copy, for editing
  - Hidden shadow copy, to detect changes
- When deleting a file on the server, your shadow copy be informed
- Allows for working offline



REPOSITORY

Delete

- Now the deletion must be simply be committed as any change

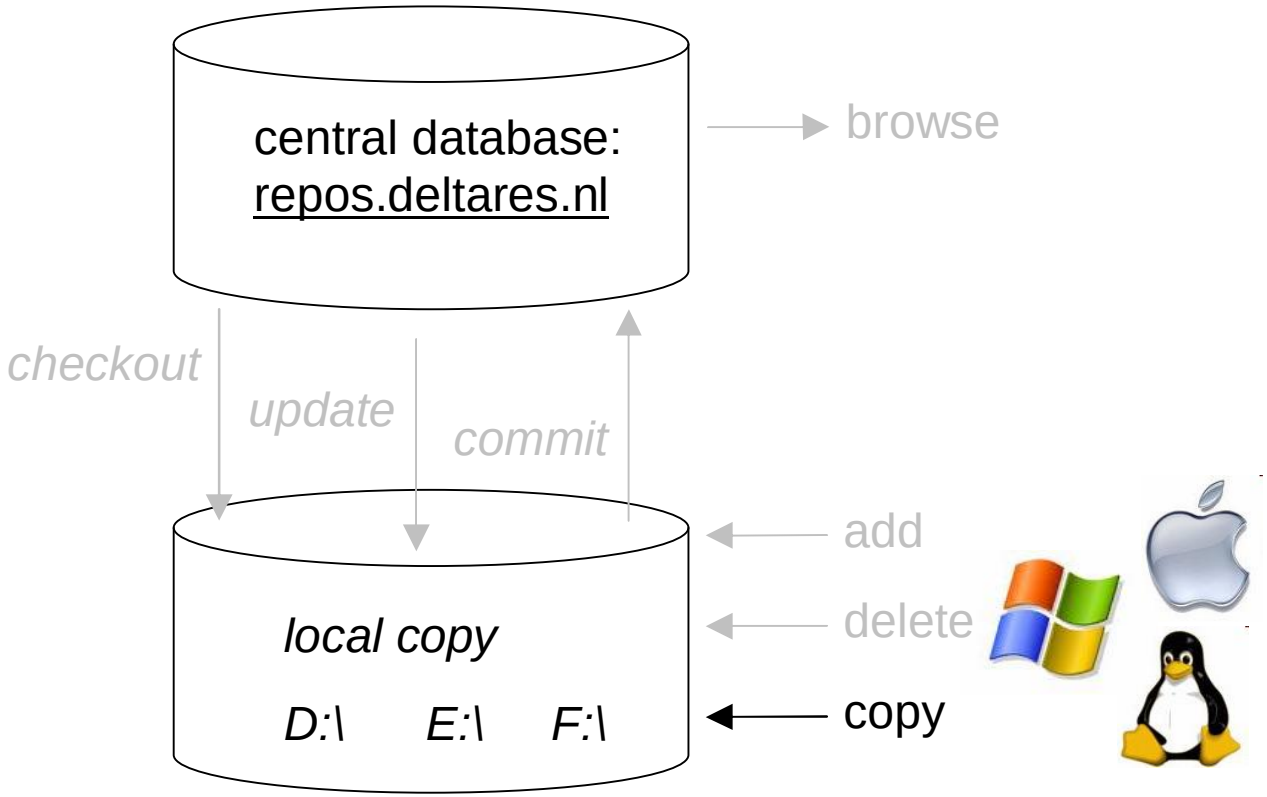


REPOSITORY

Delete

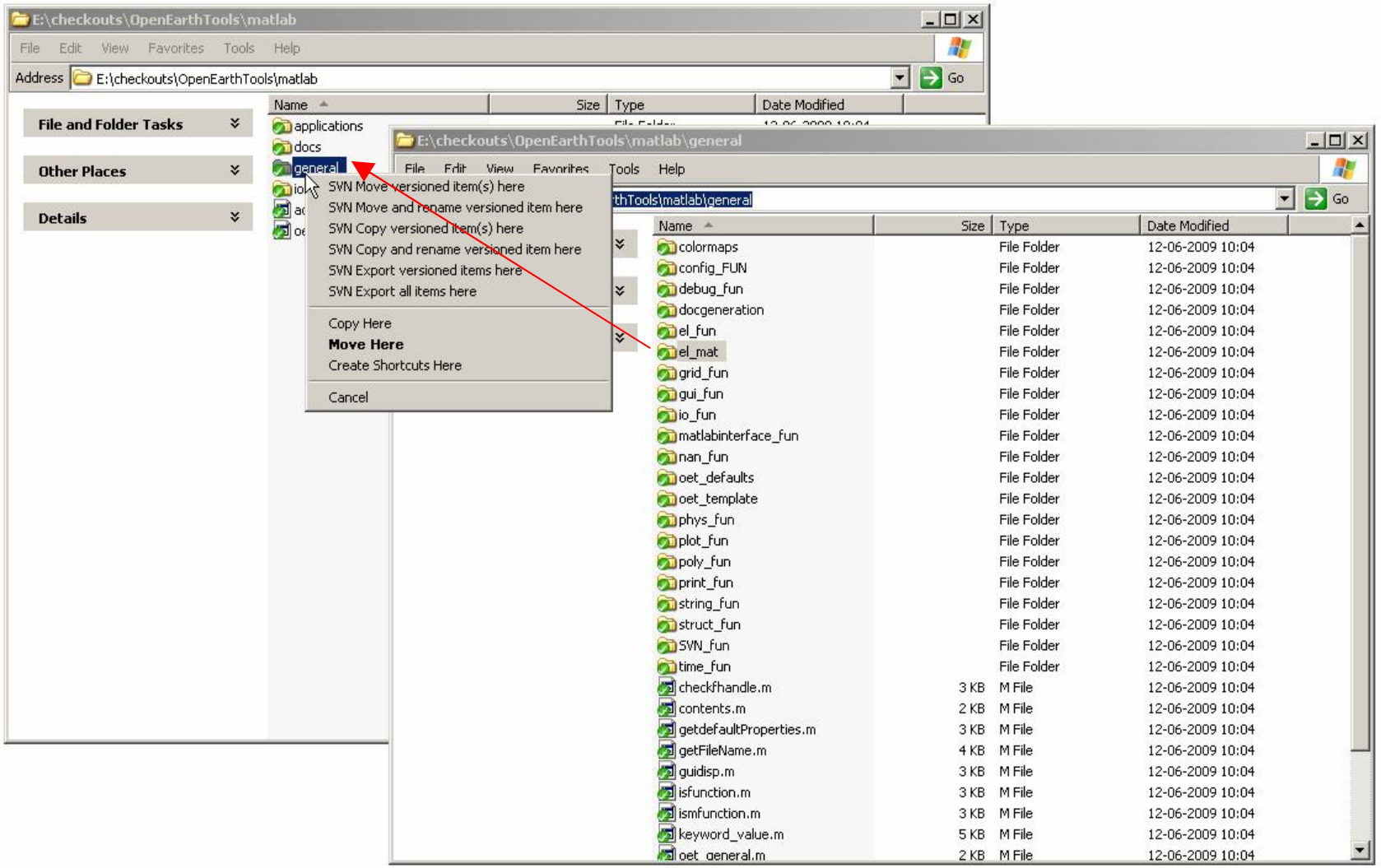
- Now delete the addition you made in http://repos.deltares.nl/repos/OpenEarthTools/sandbox
- And check the log file, to see what colleagues did.

REPOSITORY *copy*



REPOSITORY *copy*

- Again: first inform shadow copy locally, then commit to server …
- Drag with right-mouse button



OpenEarth Repositories

- **OpenEarthTools**
  - organized per language
  - properly document according to language defaults
  - per language include a settings file: oetsettings.m for Matlab
  - Keep it small: one should be able to check-out all of OpenEarthTools
- **OpenEarthRawData**
  - Big, so full checkout not possible desirable
  - Hence insertion of data requires a checkout of a directory without its children
  - Data are stored with copyright holder as main directory.
    - copyright holders to maintain their own data
    - copyright holders to shift easily from private to open source
    - users to identify whom to acknowlegde
  - in which to create one directory per dataset per institute
  - in which to create subdirectories
    - raw
    - scripts
    - cache
  - Dataset root should also contain
    - dedicated processing scripts (if not in OpenEarthTools)
    - url file to web source
    - INSPIRE XML meta-data file