



502045

Software Engineering

Chapter 09

Lesson 14: Version Control with SVN

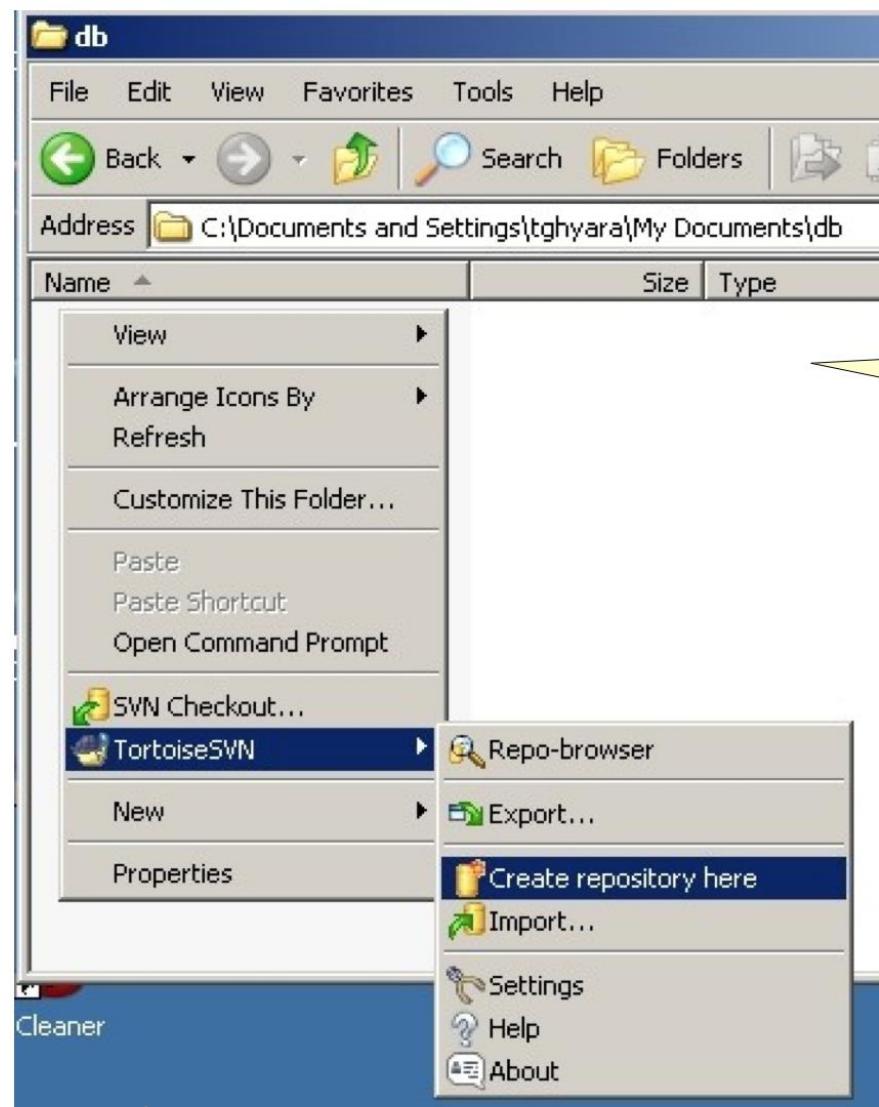
Introduction

- Graphical front end to a Subversion repository
 - Subversion is a Version Control system
- Integrates with Windows Explorer — No separate client application required
- All TortoiseSVN functionality present in Windows Explorer's File menu or context menu (obtained by right-clicking within a Windows Explorer window)

Infrequent Tasks

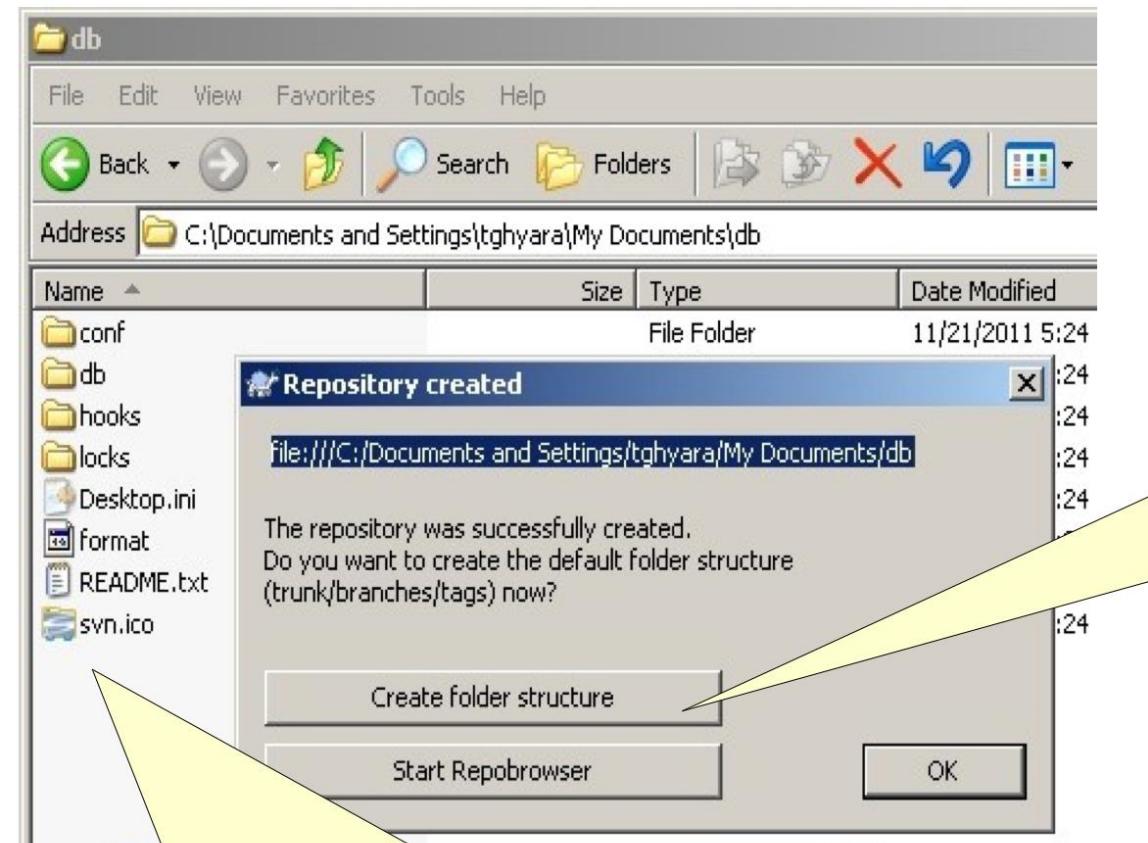
- Creating a repository
 - A one-time creation activity, not used often
 - Should be created by the repository administrator
 - A freshly created repository does not contain any user files
- Importing files into a repository
 - An already existing project that must be placed under version control must be imported to the repository
- Checking out files
 - Copies files from the repository to a local directory. The directory stores the working copy

Creating Subversion Repositories



The Subversion repository must be created in an empty directory. Right-click anywhere in the Explorer window to obtain the context menu displayed here.

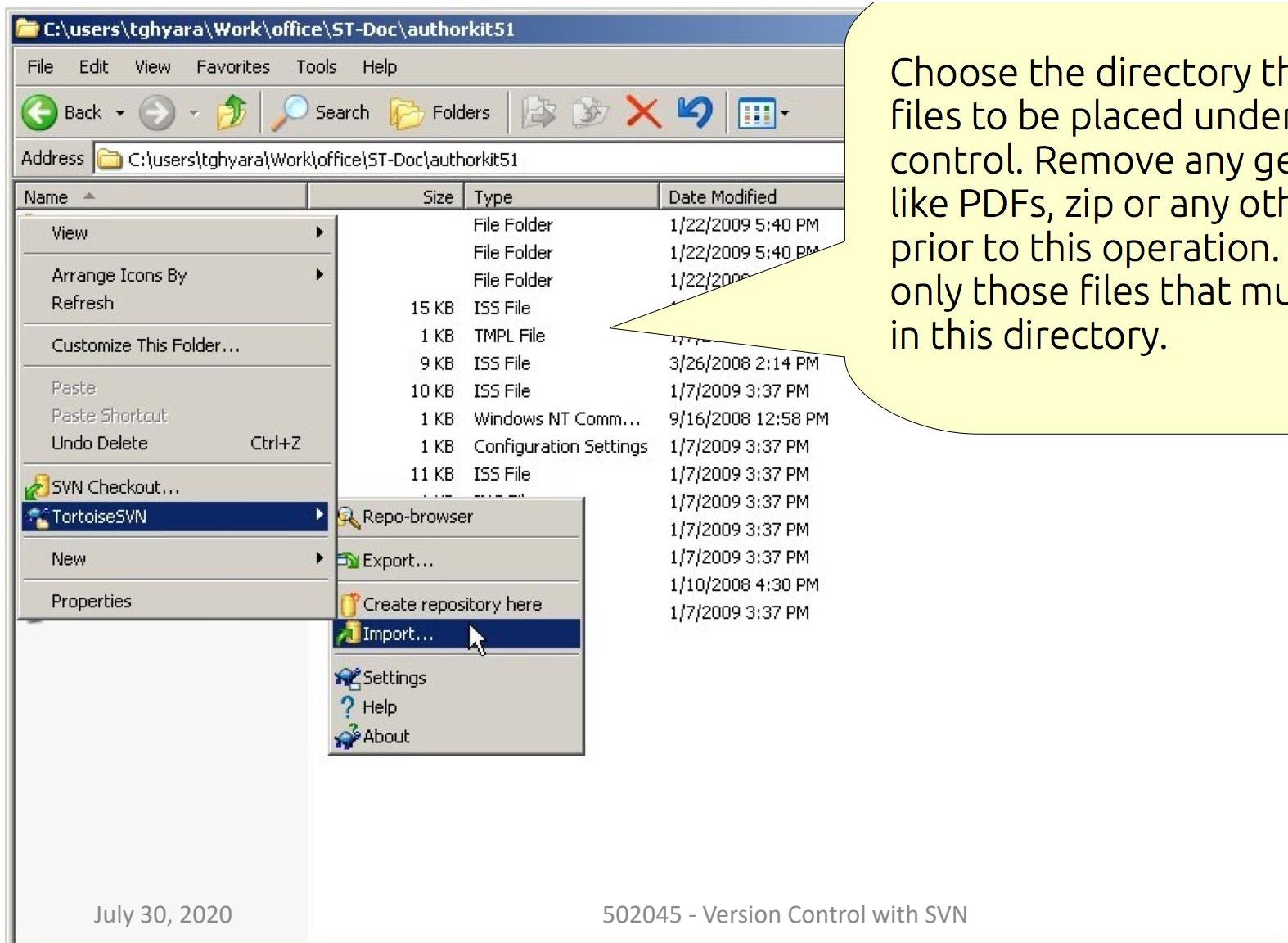
Creating A Repository-2



Press the **|Create folder structure|** button to create the default folder structure used by most projects, or press **|OK|** to exit.

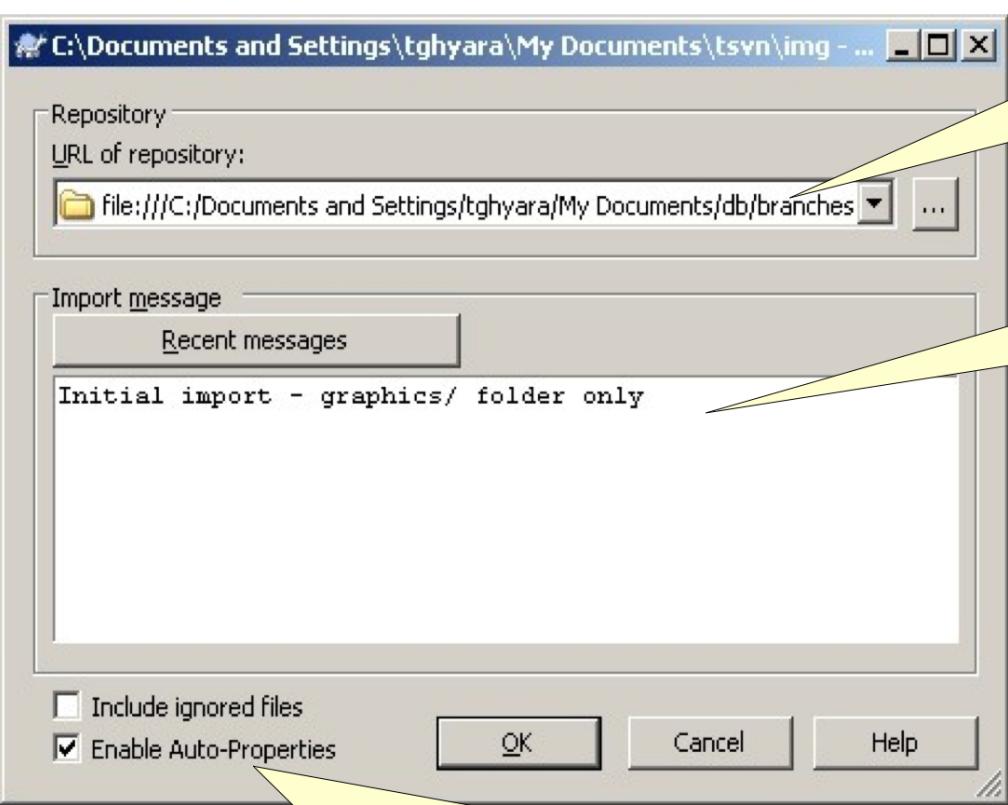
Once the repository is created, it will be maintained by Subversion. Do **NOT** try to maintain this directory manually. Attempts to create/rename/modify/delete files in the repository will corrupt the repository.

Populating The Repository With Existing Non-versioned Files



Choose the directory that contains files to be placed under version control. Remove any generated files like PDFs, zip or any other archives, prior to this operation. Store only those files that must be versioned in this directory.

Importing Into A Repository-2



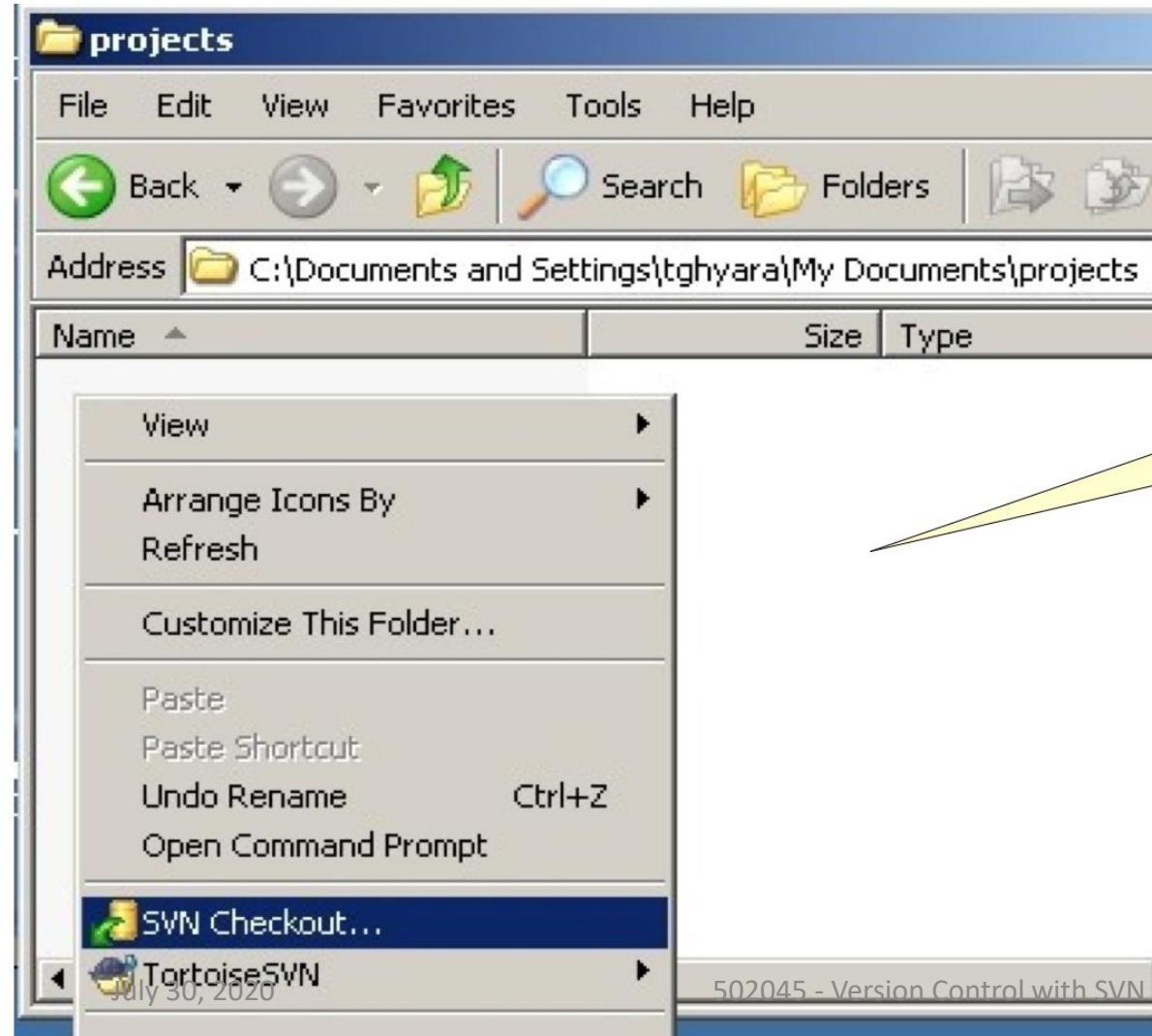
Specify the URL path to the repository.
The URL will provided by the administrator.

Provide an appropriate message here,
representing the files being imported
into the repository..

Auto-Properties assigns properties to files. Actual file properties applied depend on properties set by the administrator/developer for various file types.

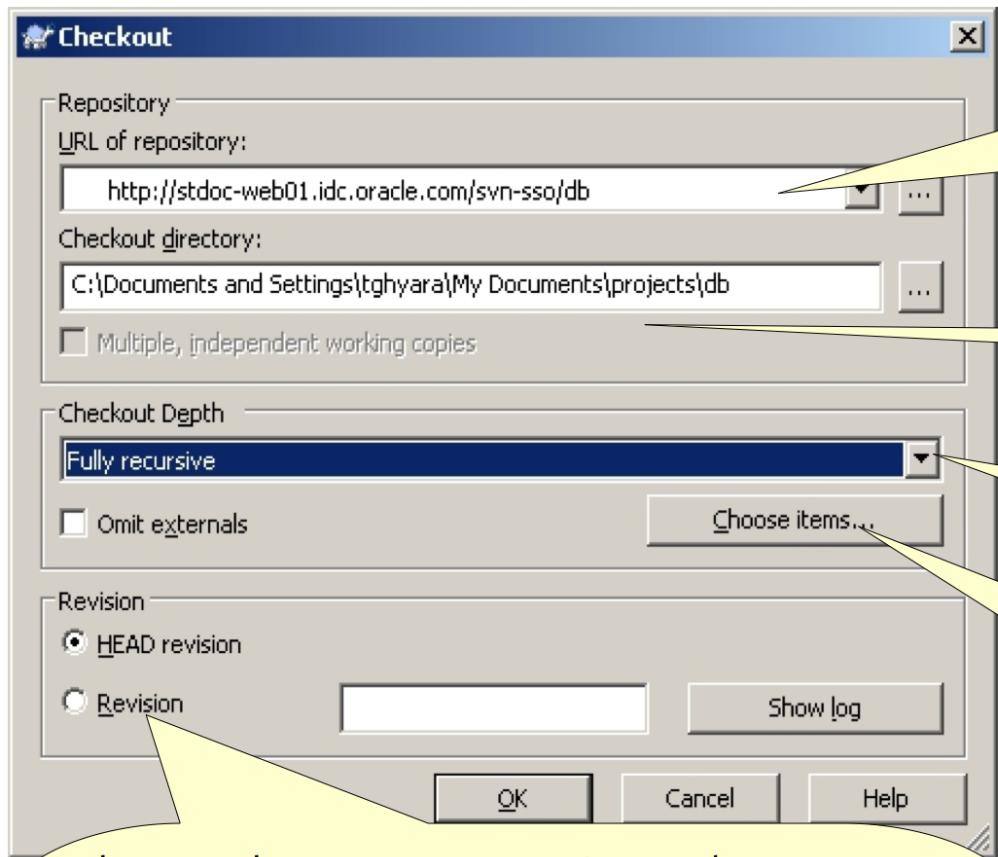
Commonly a needs-lock property is set for binary files. Do **NOT** un-check Auto-Properties unless you know what you're doing.

Creating A Working Copy From The Subversion Repository



Preferably choose an empty directory name within which to extract the working copy.

Creating A Working Copy-2



Choose the **Revision** option only if you need to extract a specific revision from the repository. Use the **Show Log** button to help determine the revision to extract.

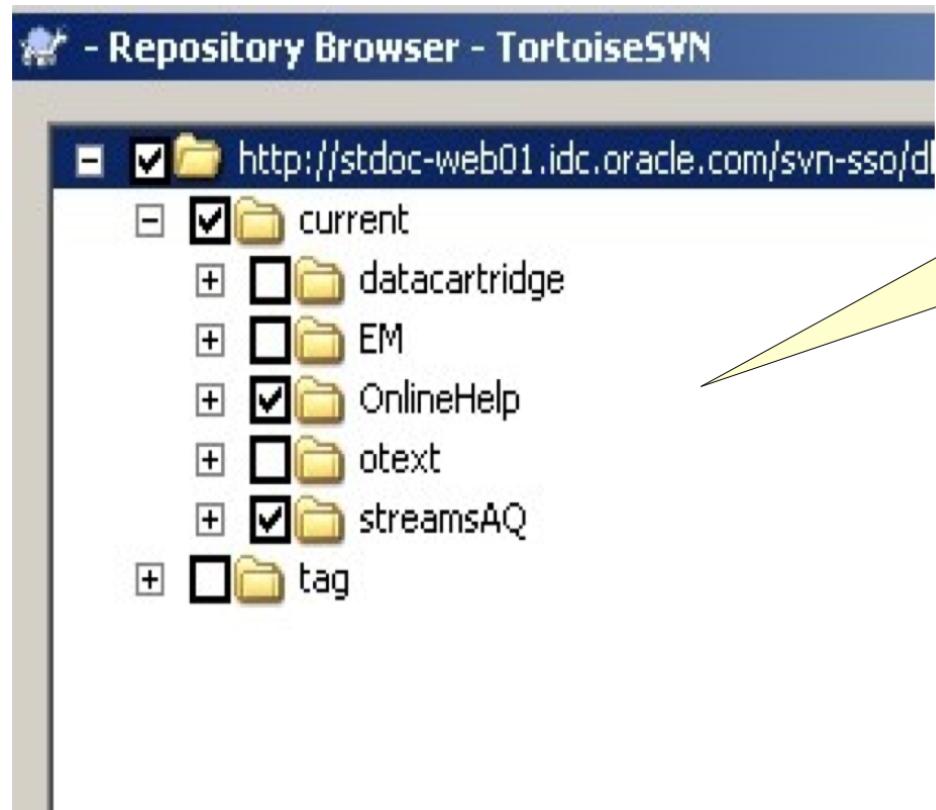
Specify the URL path to the repository. The URL will be provided by the administrator.

Specify an empty directory name.

Use **Fully Recursive** to checkout all files and subdirectories recursively.

Press **Choose items** if you wish to check out only specific directories, instead of the complete directory tree.

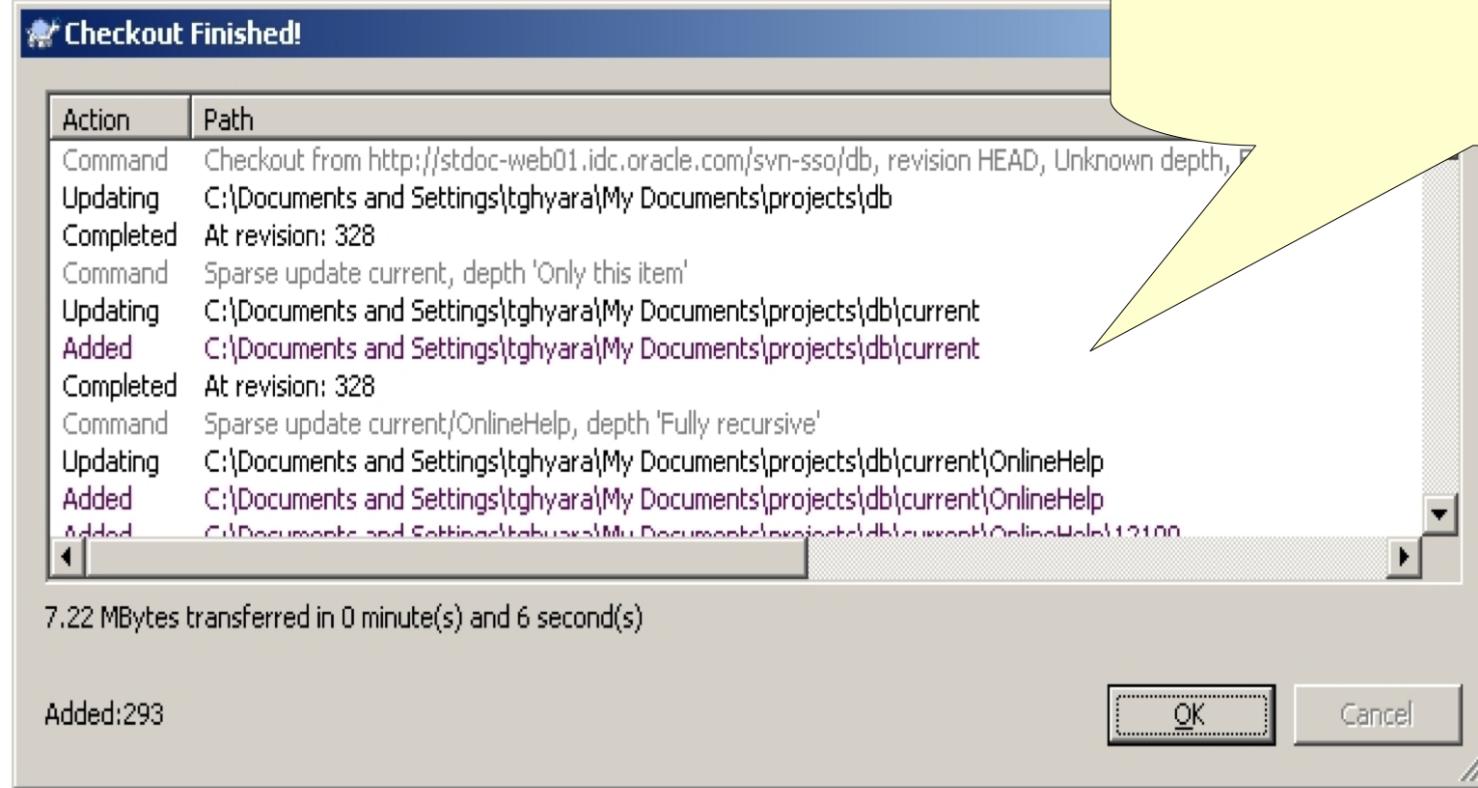
Creating A Working Copy-3

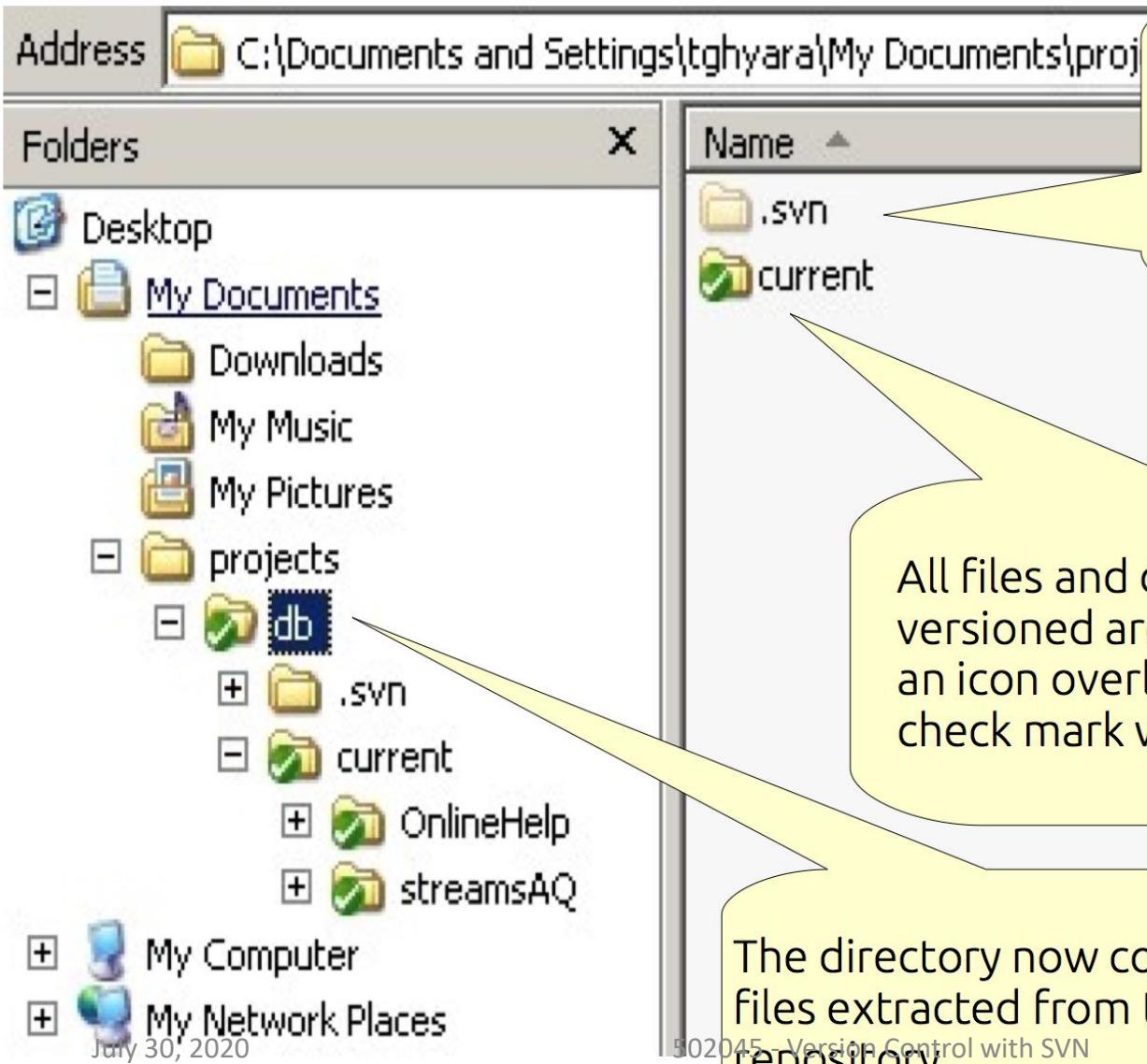


Pressing **|Choose items|** displays this dialog.
Only checked folders will be checked out.

Creating A Working Copy-4

Selected folders are copied from the repository to the working copy.





Never access the `.svn` folder. Manually changing the `.svn` folder can cause a mismatch with the repository, making commits impossible.

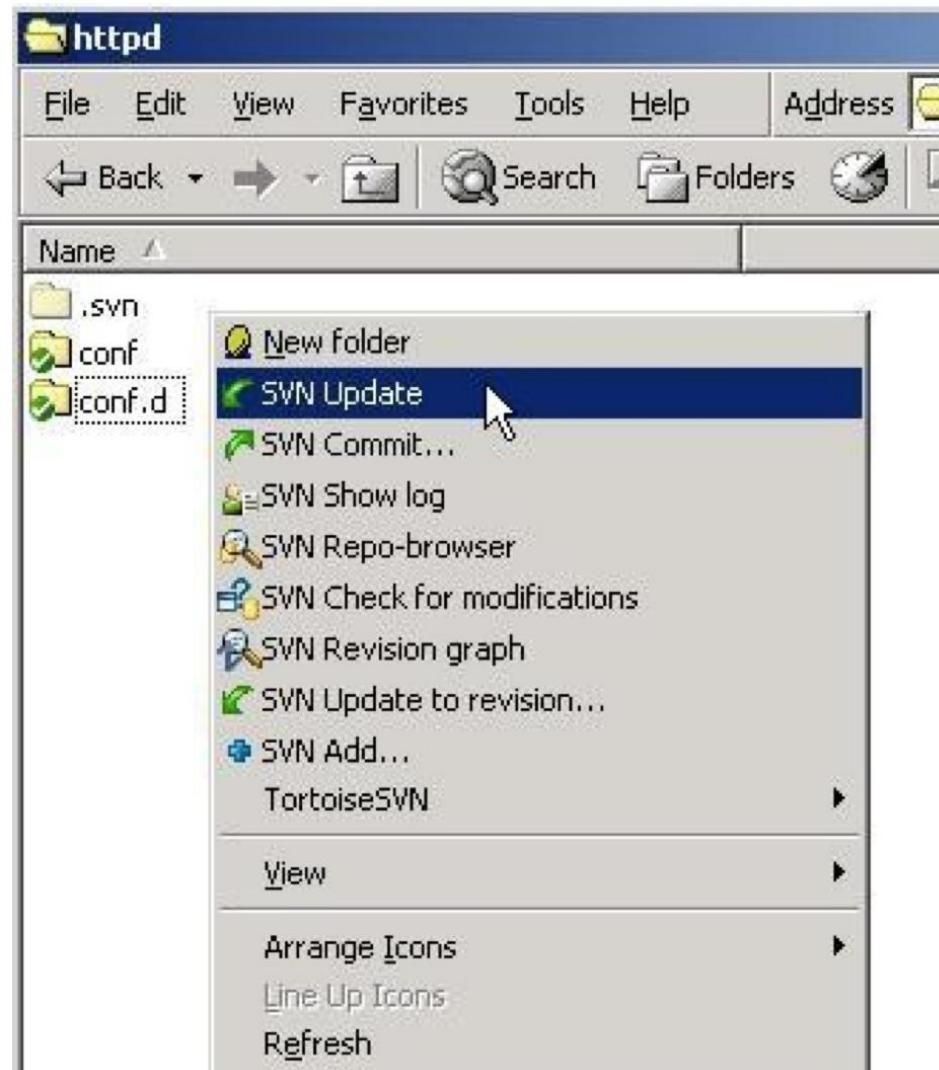
All files and directories that are versioned are displayed using an icon overlay – (the green check mark within the icon).

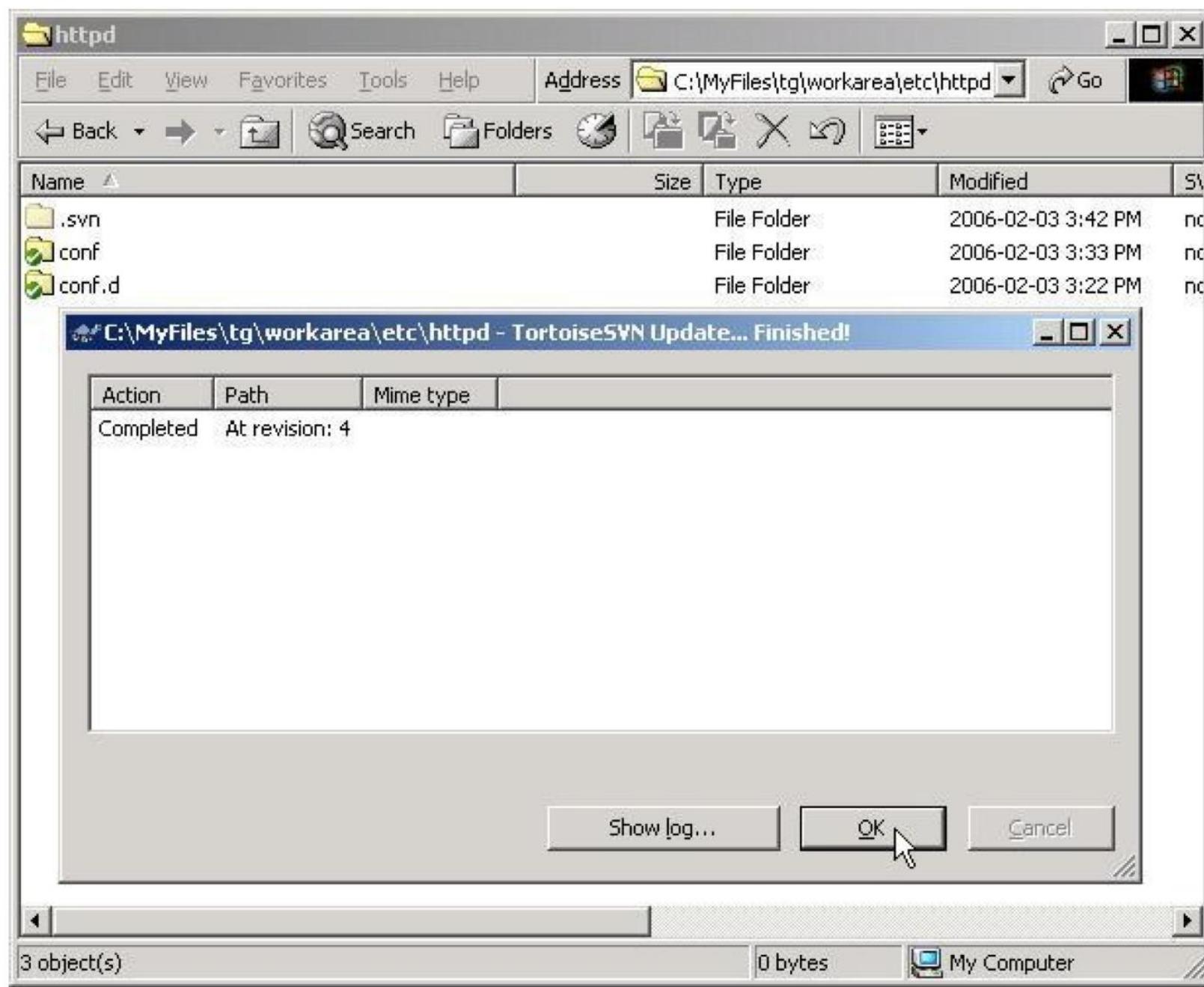
The directory now contains all files extracted from the repository.

Daily Usage Cycle

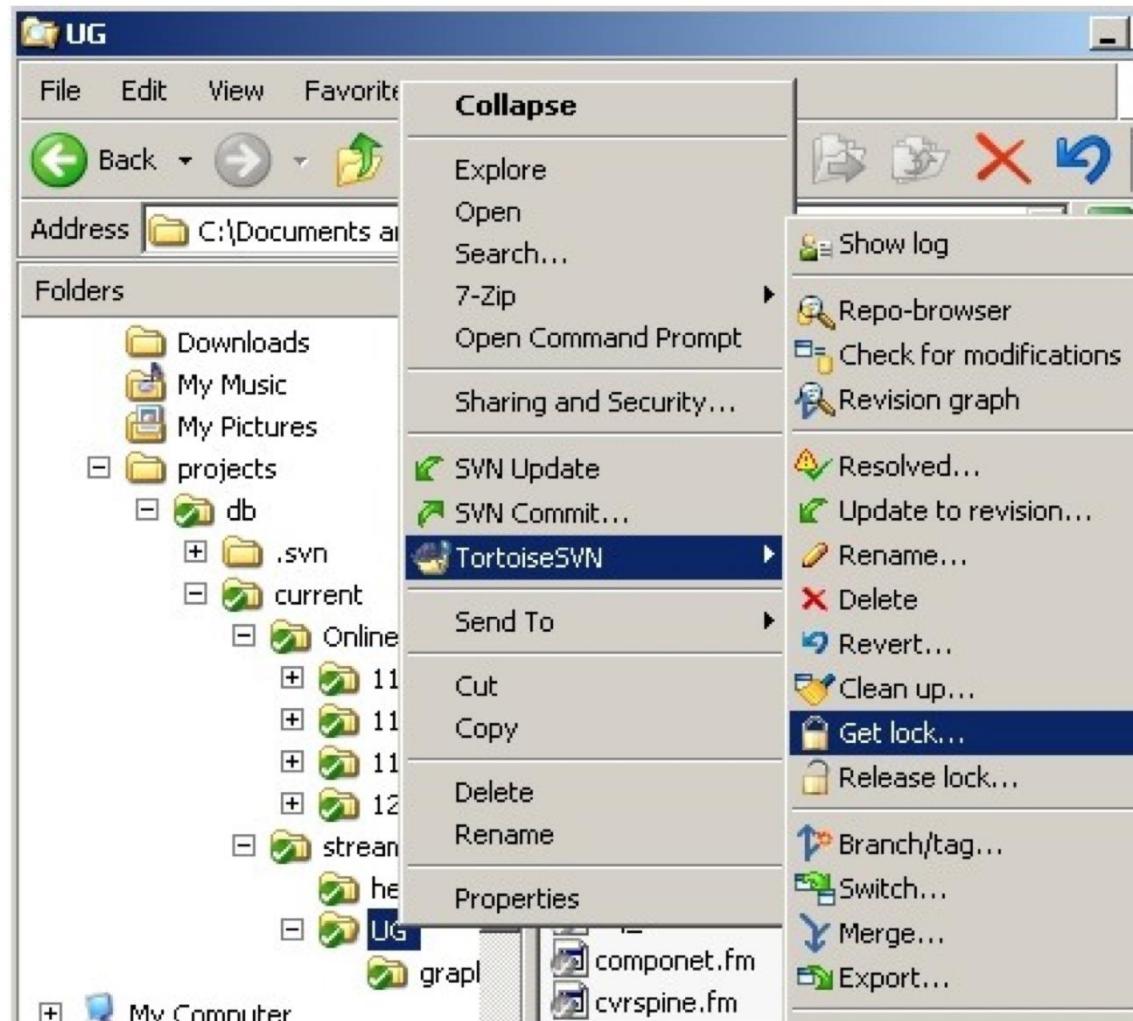
- Update the working copy
- Lock binary files in the working copy
 - Text files can also be locked if you need to exclusively work with the file
- Edit the files
- Commit the changes to the repository

Update The Working Copy-1

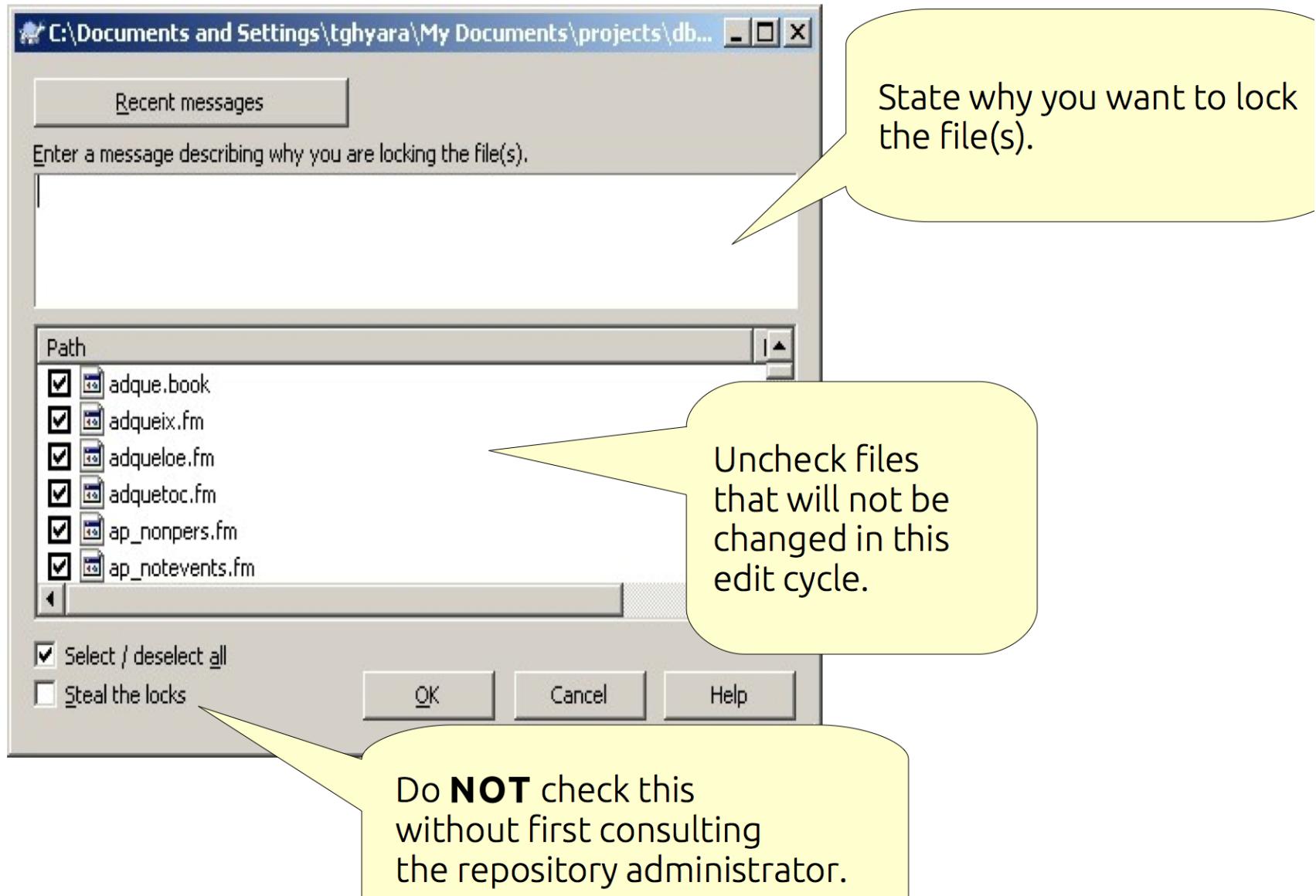




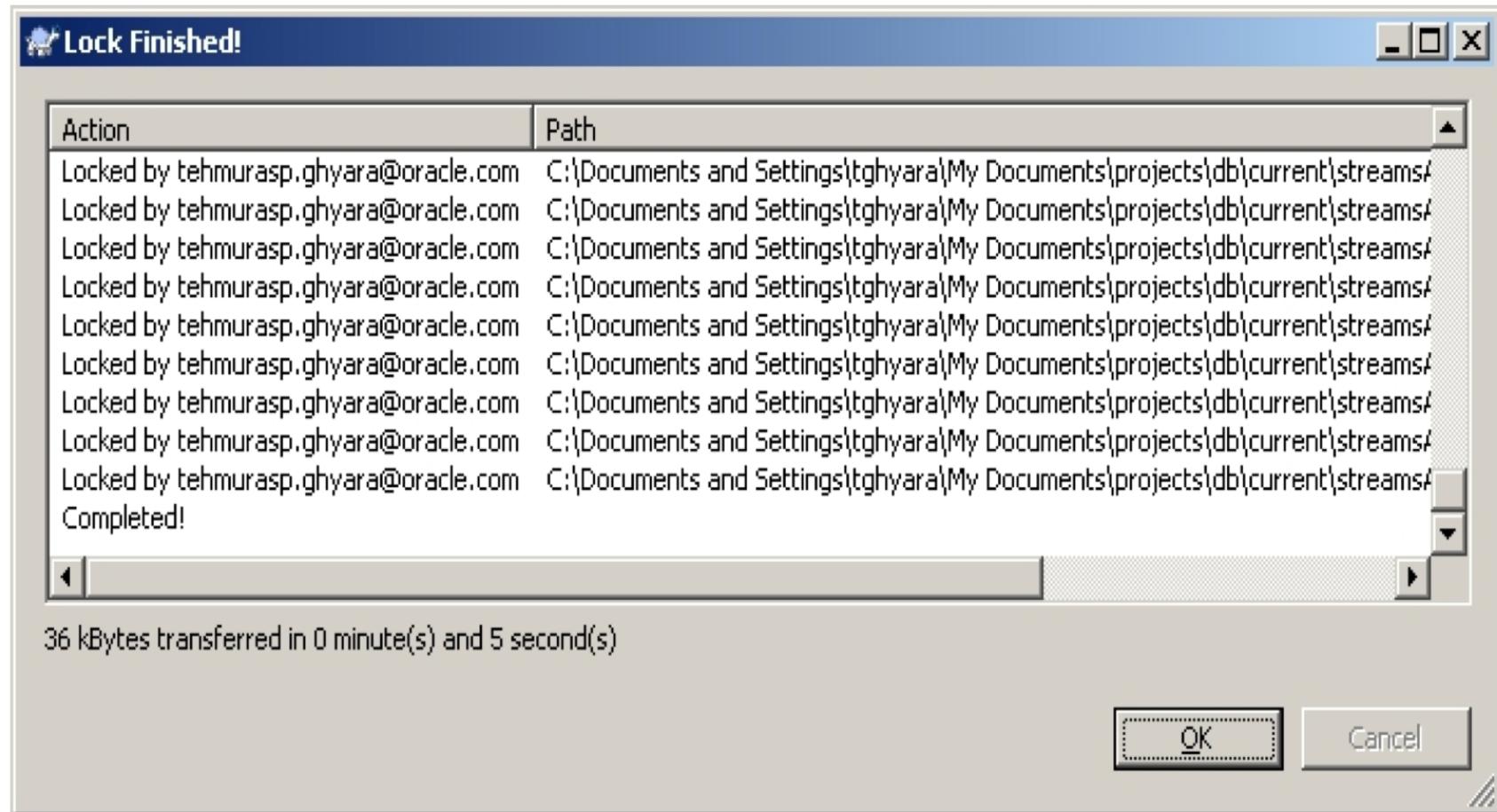
Lock Files-1



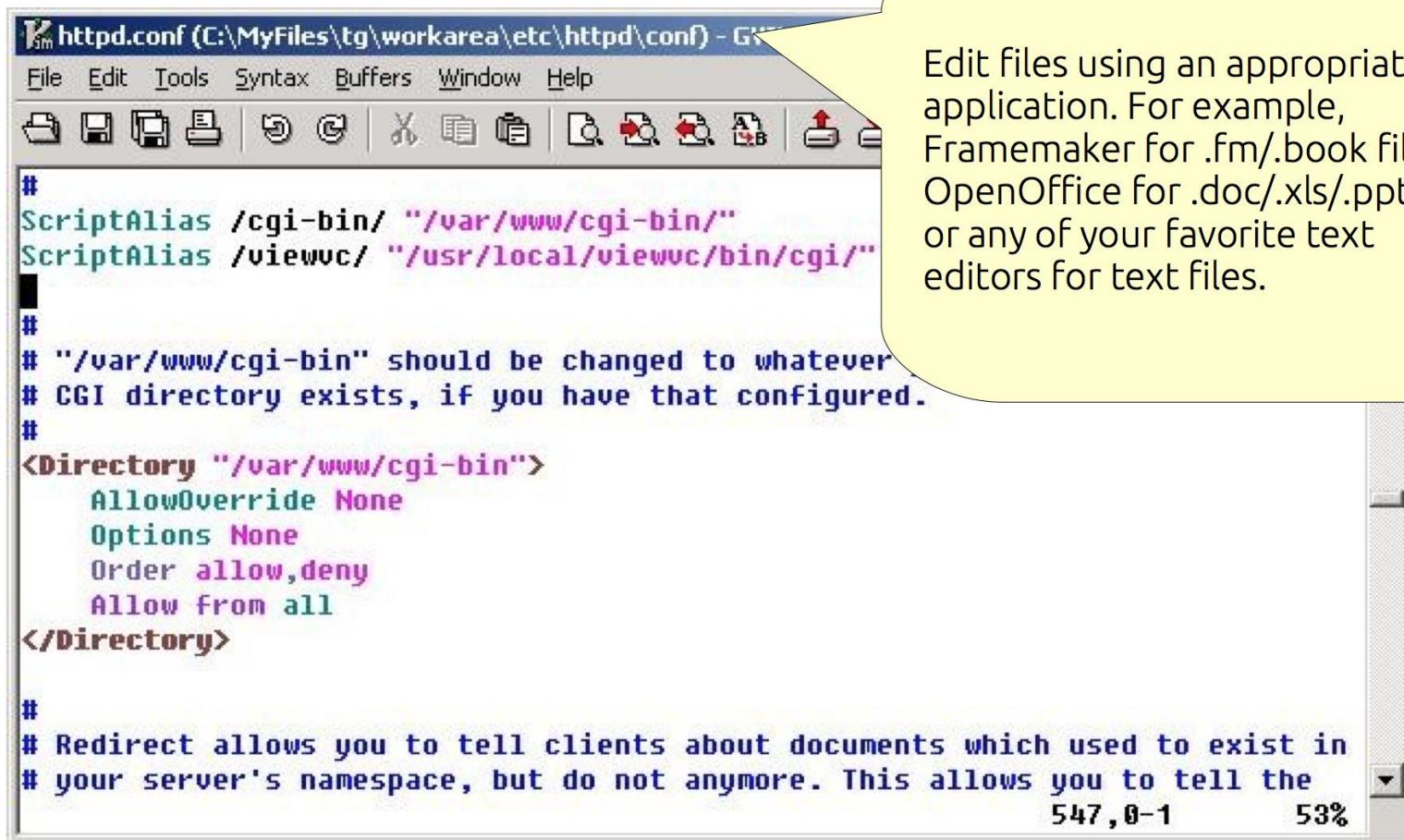
Lock Files-2



Lock Files-3



Edit Files

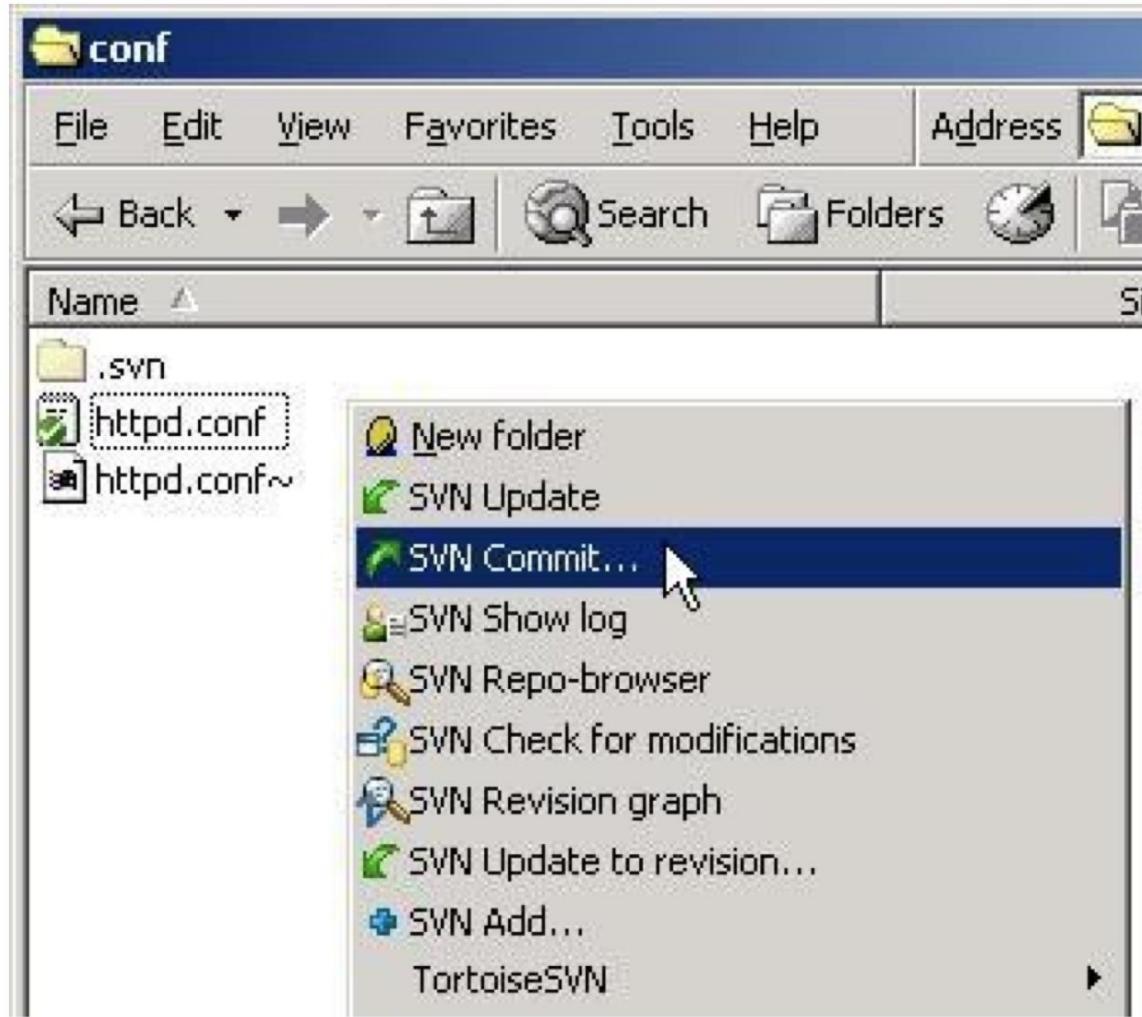


The screenshot shows a text editor window titled "httpd.conf (C:\MyFiles\tg\workarea\etc\httpd\conf) - GVIM". The menu bar includes File, Edit, Tools, Syntax, Buffers, Window, and Help. The toolbar contains icons for file operations like Open, Save, Print, Undo, Redo, and Find. The main text area displays the Apache httpd.conf configuration file. The code includes directives for ScriptAlias, Directory, and Redirect. A yellow callout bubble points from the right side of the slide towards the text editor window.

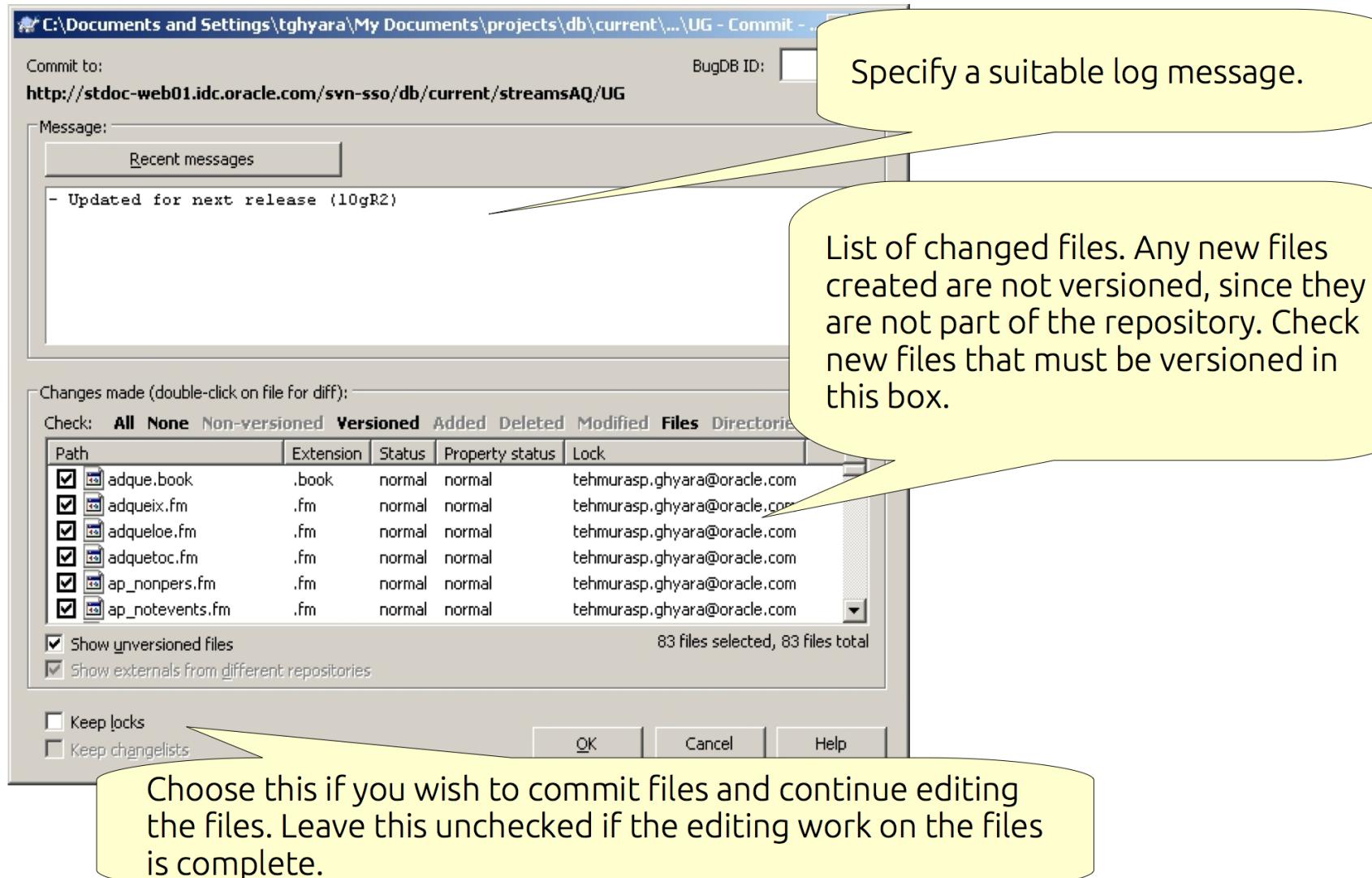
```
#  
ScriptAlias /cgi-bin/ "/var/www/cgi-bin/"  
ScriptAlias /viewvc/ "/usr/local/viewvc/bin/cgi/"  
  
#  
# "/var/www/cgi-bin" should be changed to whatever  
# CGI directory exists, if you have that configured.  
#  
<Directory "/var/www/cgi-bin">  
    AllowOverride None  
    Options None  
    Order allow,deny  
    Allow from all  
</Directory>  
  
#  
# Redirect allows you to tell clients about documents which used to exist in  
# your server's namespace, but do not anymore. This allows you to tell the
```

Edit files using an appropriate application. For example, Framemaker for .fm/.book files, OpenOffice for .doc/.xls/.ppt files, or any of your favorite text editors for text files.

Commit Files-1



Commit Files-2



Common Tasks

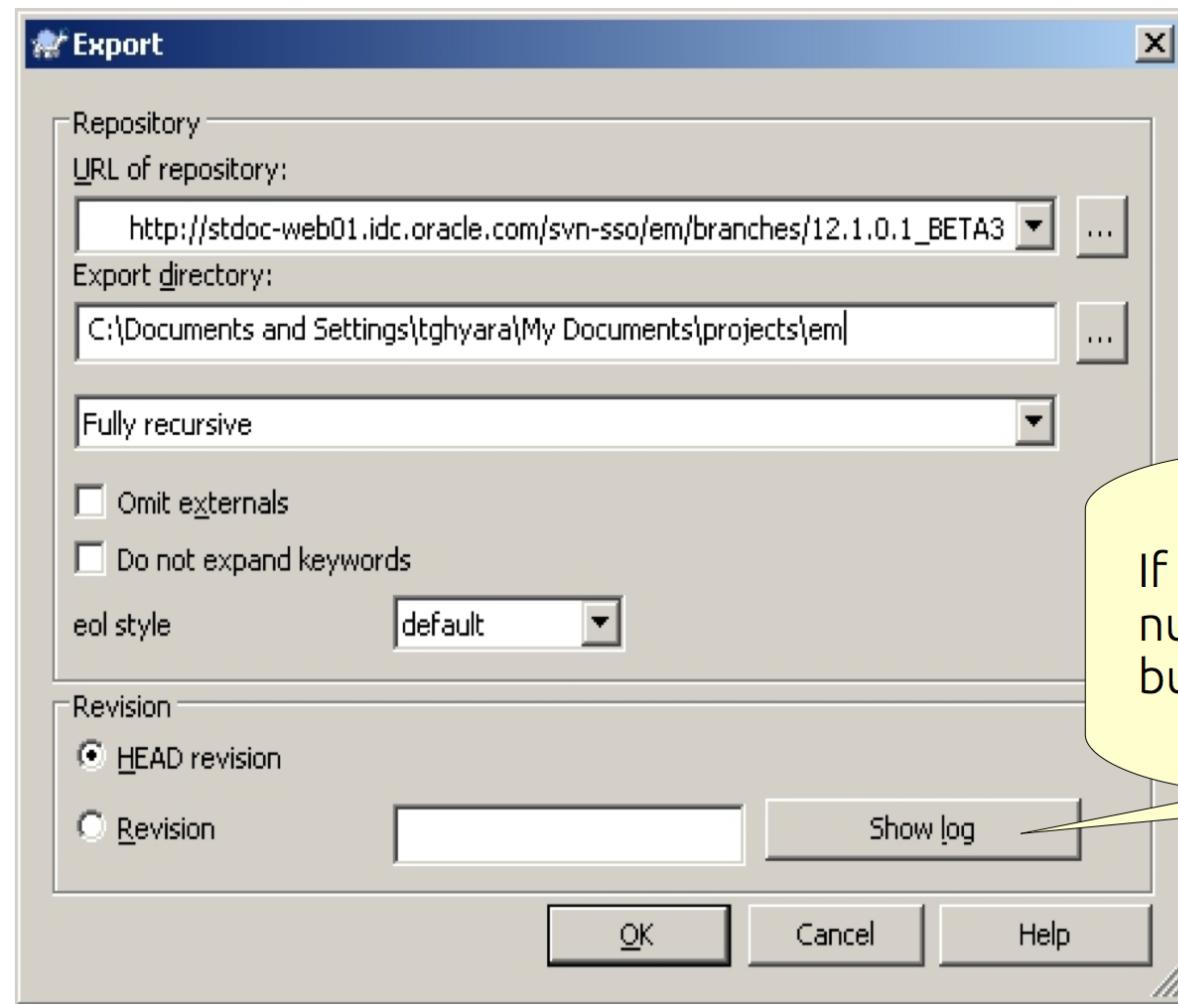
- Extracting an older version ("Export")
- Displaying the revision log
- Releasing a lock
- Undo changes to the last updated version
- Rolling back to a previous revision
- Checking the repository for modifications
- Viewing the difference between text files
- Adding/Renaming/Deleting/Moving files in the repository
- Ignoring files that should not be stored in the repository

Extracting An Older Version



Choose an empty directory.

Exporting An Older Revision-2



If unsure about the required revision number, press the |Show log| button.

Exporting An Older Revision-3

The screenshot shows the TortoiseSVN 'Log Messages' dialog box. At the top, there are date selection fields: 'From: 5/18/2011' and 'To: 7/ 6/2011'. Below this is a table of log entries:

Revision	Actions	Author	Date	Message
121	1	namrata.bhakthavatsalam	Wednesday, July 06, 2011 6:17:55 PM	Updated prereq info
120	1	aravind.jayaraaman	Wednesday, July 06, 2011 8:46:11 AM	Fixed bug# 127163
119	1	namrata.bhakthavatsalam	Monday, July 04, 2011 5:29:24 PM	updated the "database details" para in ADP sections for Beta 3
116	1	aravind.jayaraaman	Friday, July 01, 2011 3:37:30 PM	Fixed bug

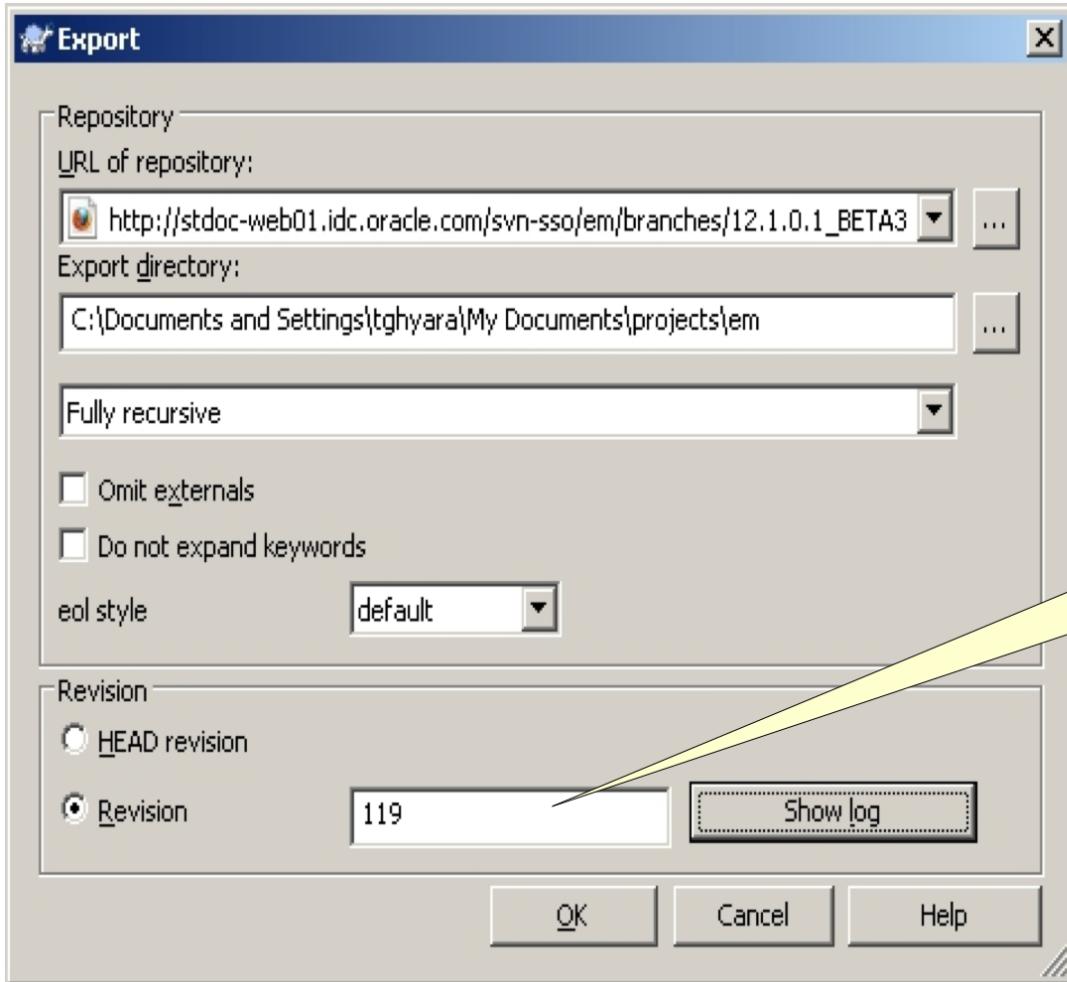
A yellow callout bubble points to the third row (revision 119) with the text: 'Choose the required revision based on the log message, or revision date or author.'

Below the log table is a path list:

Path	Action	Copy from path	Revision
/branches/12.1.0.1_BETA3/Install_Guide_Basic/adp_jvmd_installation.fm	Modified		

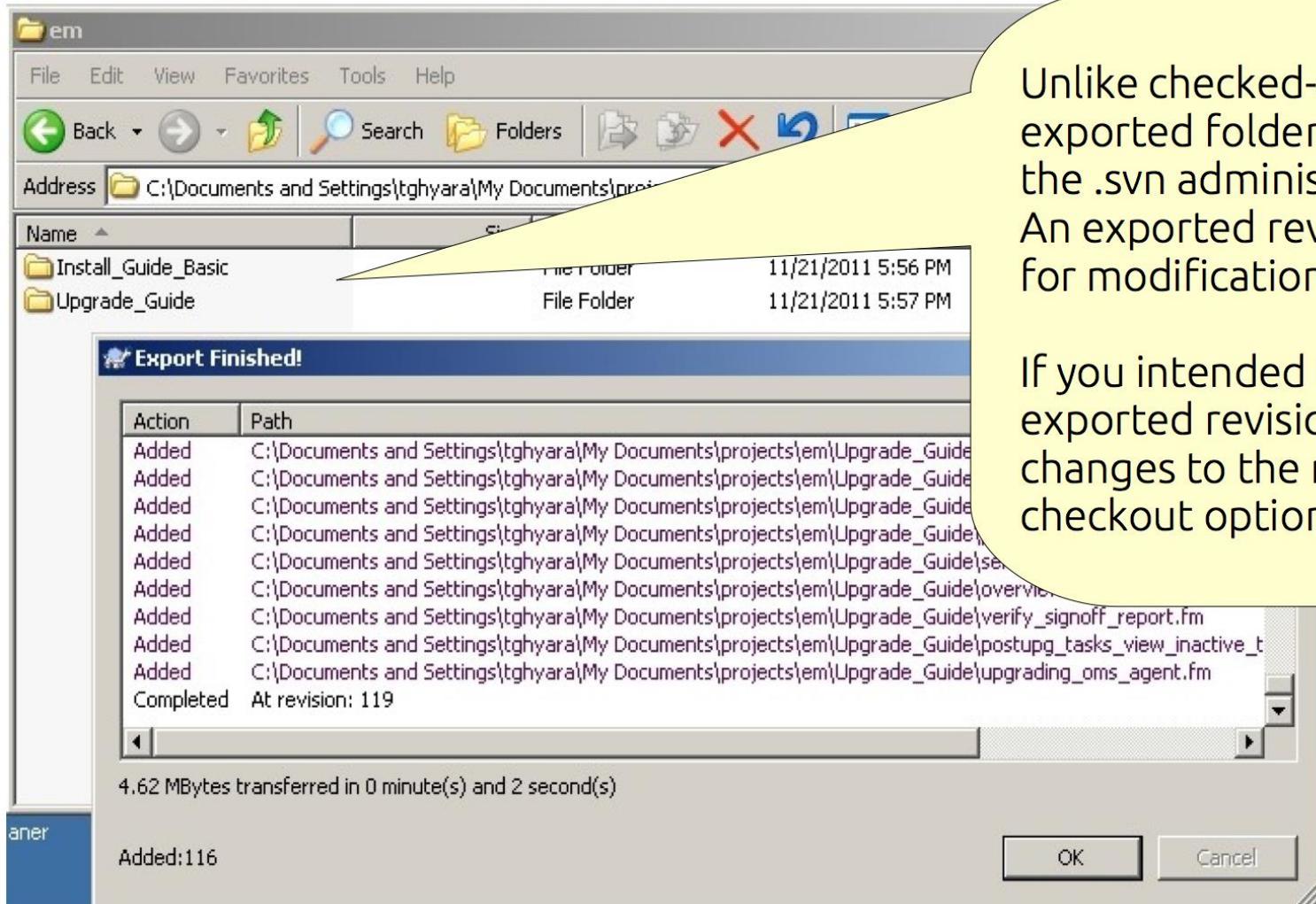
At the bottom, there are several buttons: 'Statistics', 'Help', 'OK', and 'Cancel'. On the left, there are checkboxes for filtering: 'Show only affected paths', 'Stop on copy/rename', and 'Include merged revisions'. A status message at the bottom left says: 'Showing 52 revision(s), from revision 24 to revision 121 - 1 revision(s) selected, showing 1 changed paths'.

Exporting An Older Revision-4



The chosen revision number is filled in.

Exporting An Older Revision-5

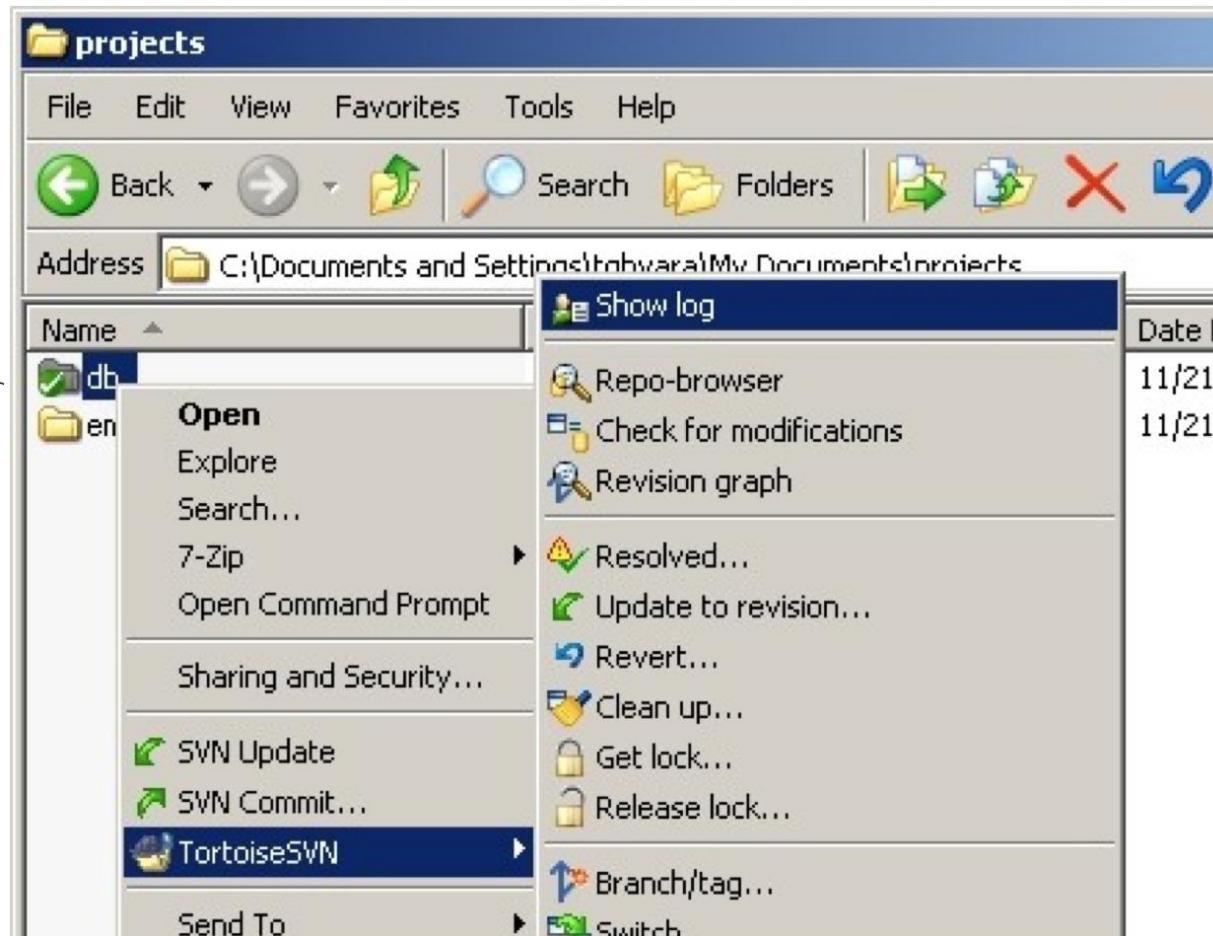


Unlike checked-out folders, exported folders do **NOT** contain the .svn administrative folders. An exported revision is not suitable for modifications.

If you intended to modify the exported revision and commit the changes to the repository, use the checkout option instead.

Displaying The Revision Log

This folder must contain a working copy from the repository.



Displaying Revision Logs-2

The screenshot shows the TortoiseSVN 'Log Messages' window. At the top, there's a search bar with the path 'C:\Documents and Settings\tghyara\My Documents\projects\db - Log Messages - TortoiseSVN'. Below it are dropdown menus for filtering by 'Messages, Paths, Authors, Revisions, Bug-IDs, Date, Date' and date ranges 'From: 8/12/2009' and 'To: 11/ 1/2011'. A yellow callout points to these dropdowns with the text: 'If required, filter log messages displayed by typing a search string.' The main table lists revisions from 328 down to 325. The first revision, 328, has a detailed log message: 'Added 12100 folder and all the files carried forward from 11203.' Another yellow callout points to this message with the text: 'If required, filter log messages displayed by date using the From and To drop-downs.' A third yellow callout points to the log message for revision 328 with the text: 'Log message for selected revision.' At the bottom, there's a table showing the paths added or modified, with a yellow callout pointing to it with the text: 'List of files added, or modified, or deleted in the selected revision.'

Revision	Actions	Author	Date	Message
328	+	reema.khosla@oracle.com	Tuesday, November 01, 2011 6:35:18 PM	Added
327	!	rajesh.bhatiya	Tuesday, July 26, 2011 2:09:36 PM	Update
326	!	rajesh.bhatiya	Tuesday, July 26, 2011 2:37:55 PM	Update
325	!	rajesh.bhatiya	Tuesday, July 26, 2011 2:09:36 PM	Update

Added 12100 folder and all the files carried forward from 11203.

Path	Action	Copy from path	Revision
/current/OnlineHelp/12100	Added		
/current/OnlineHelp/12100/FM_source	Added		
/current/OnlineHelp/12100/FM_source/clean.bat	Added		
/current/OnlineHelp/12100/FM_source/copyright_helper.cmd	Added		

Showing 100 revision(s), from revision 229 to revision 328 - 1 revision(s) selected, showing 17 changed paths

Show only affected paths
 Stop on copy/rename
 Include merged revisions

Show All | ▶ | Next 100 | Refresh | Statistics | Help | OK

Displaying Revision Logs-3

The screenshot shows the TortoiseSVN 'Log Messages' dialog box. At the top, there's a search bar with the text 'reema'. Below it, a filter section has 'From: 8/12/2009' and 'To: 11/1/2011' set. The main area displays a table of log entries:

Revision	Actions	Author	Date	Message
279	Update	reema.khosla	Monday, January 24, 2011 2:34:49 PM	Renamed all the help files in the fm source as per inputs from Preethi vallam.
248	Rename	namrata.bhakthavatsalam	Monday, April 19, 2010 6:47:34 PM	Generated the page level help htm's as per Reema's process doc.
235	Update	reema.khosla	Wednesday, January 27, 2010 6:10:42 PM	
234	Modified	reema.khosla	Tuesday, January 26, 2010 7:51:00 PM	

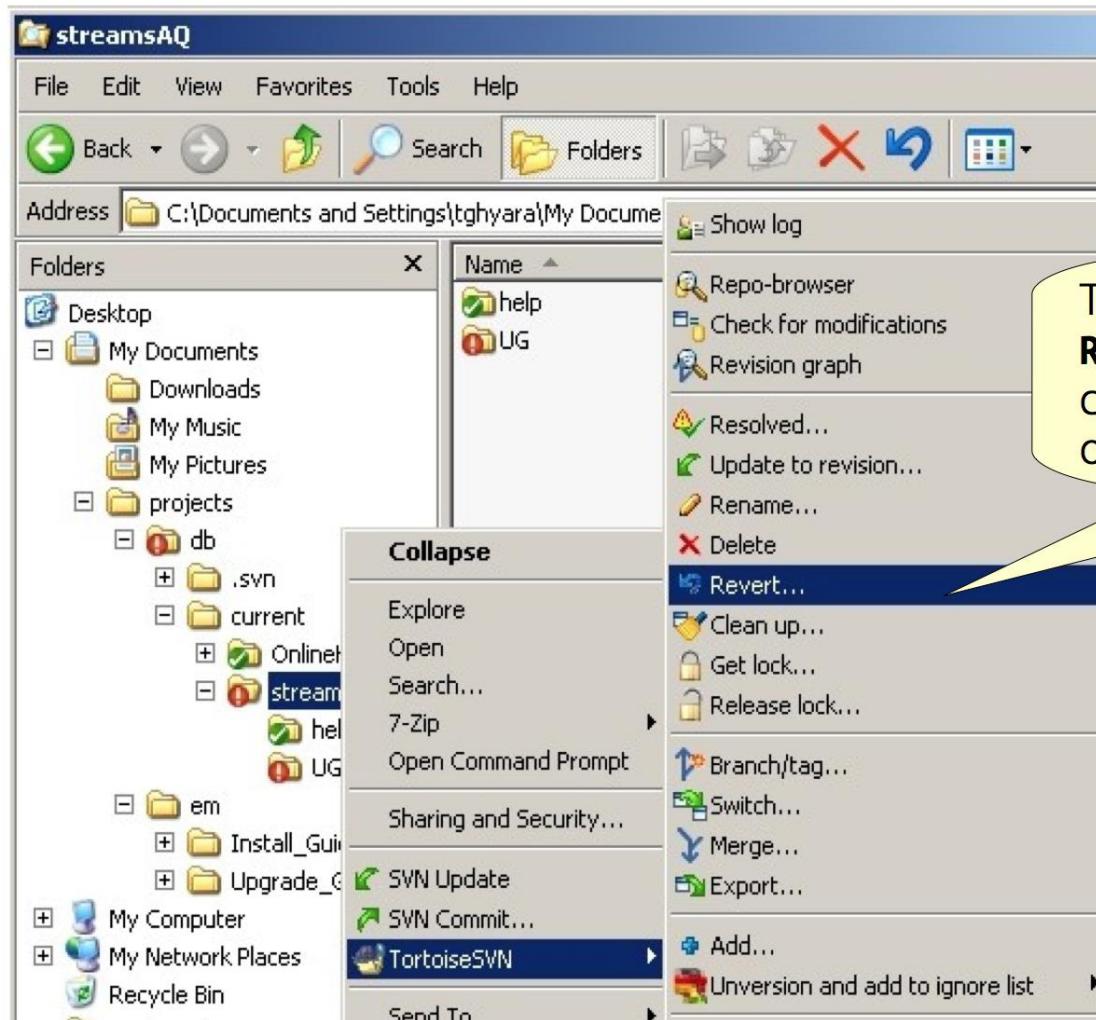
A yellow callout bubble points to the search bar with the text: 'Filter text applies to log text, author, or filename.' Another yellow callout bubble points to the message text with the text: 'Only logs matching filter displayed.' A third yellow callout bubble points to the 'namrata.bhakthavatsalam' entry with the text: 'Matching filter string is shown highlighted.'

Below the log table, the 'Path' section lists three modified files:

Path	Action
/current/OnlineHelp/11202/FM_source/HTML_help_chapter_db.fm	Modified
/current/OnlineHelp/11202/FM_source/htmlhelp.sth	Modified
/current/OnlineHelp/11202/darbook_db/helpset/en/dbinstaller_configuresecurityupdates.htm	Modified

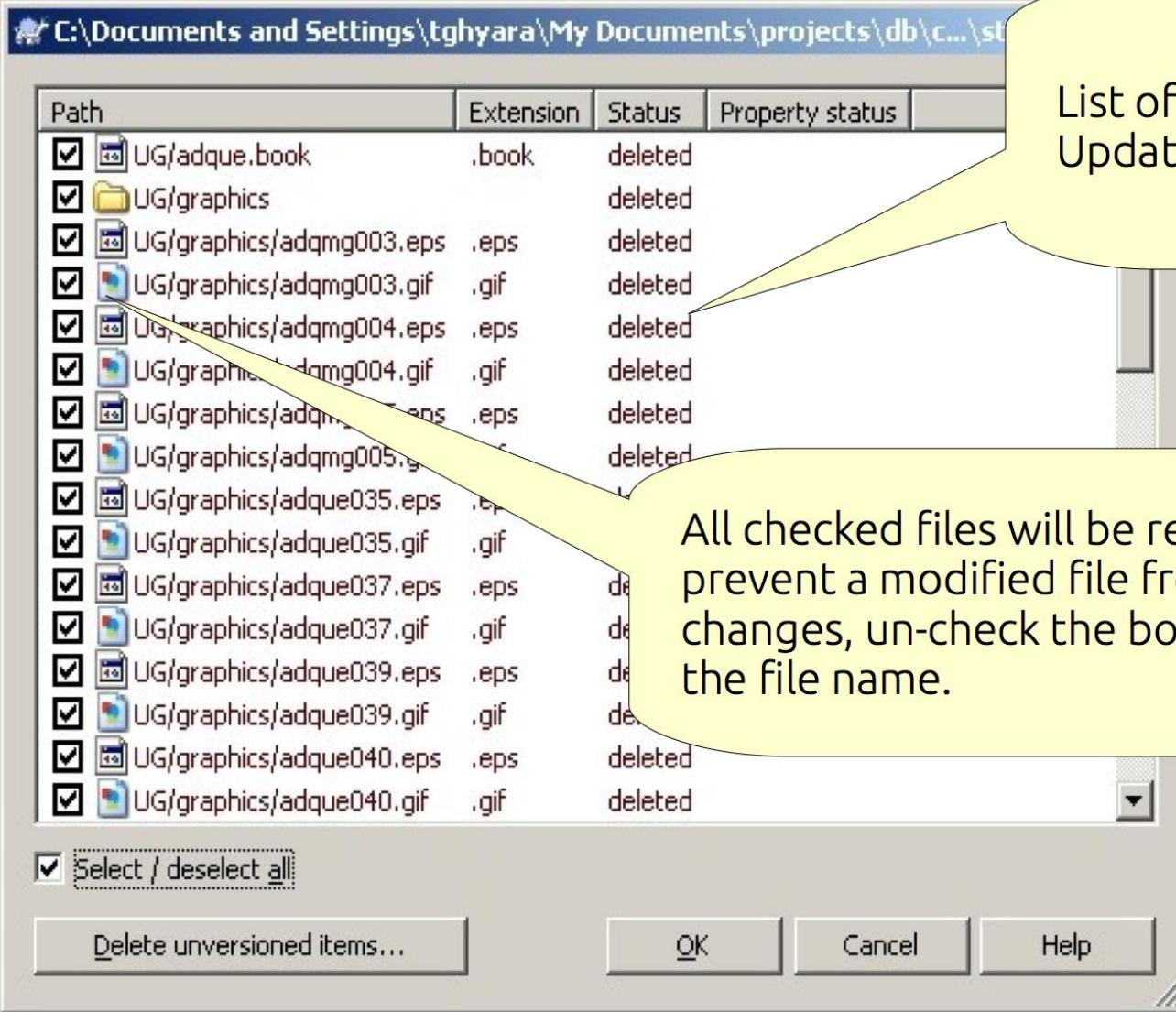
At the bottom, there are several buttons: 'Statistics', 'Help', 'OK', 'Show All', 'Next 100', and 'Refresh'.

Undoing Changes (Reverting To The Last Updated Version)



To undo any changes made, use the **Revert** option. This will revert any changes made after the last Update operation.

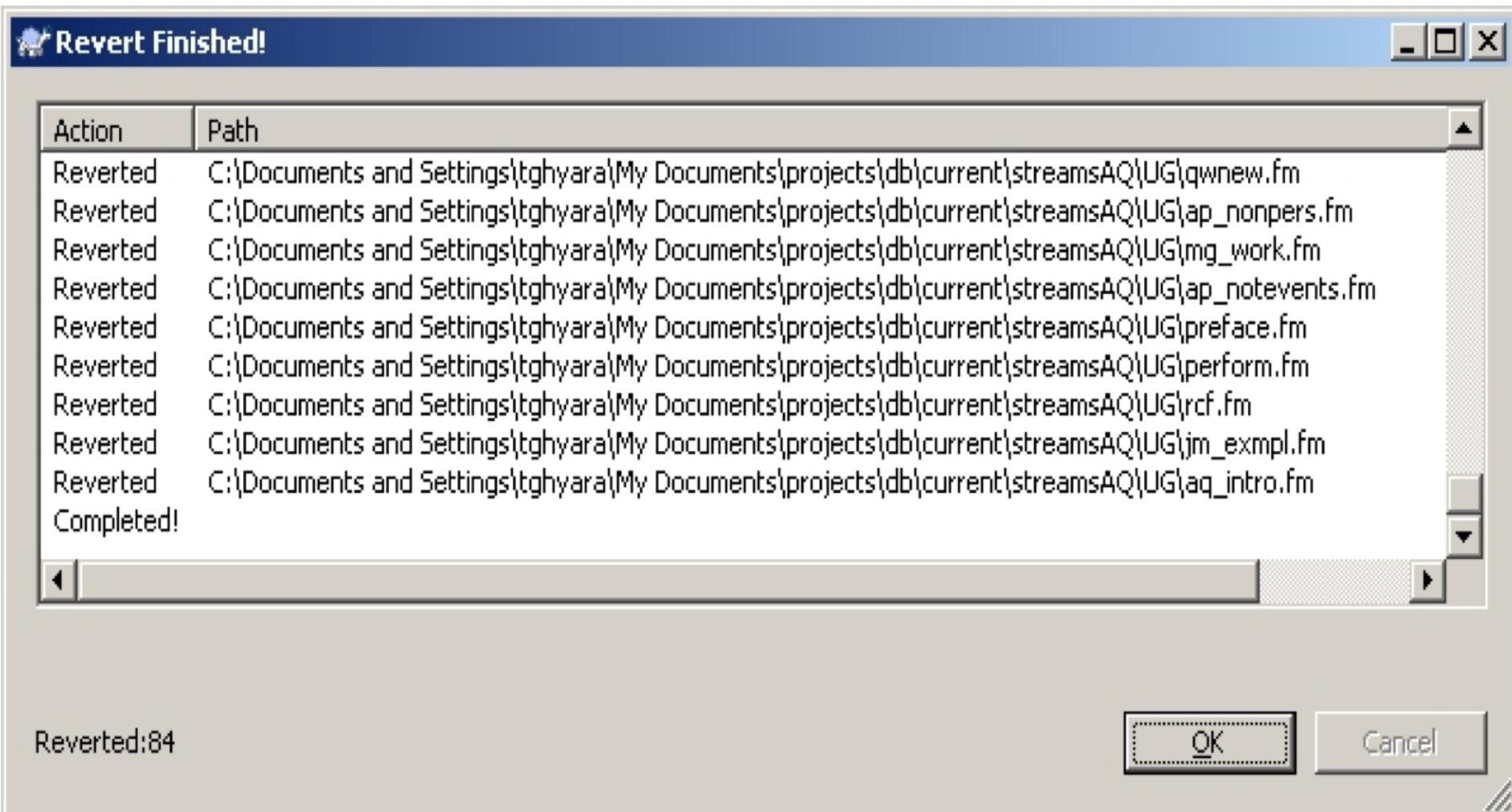
Undoing Changes-2



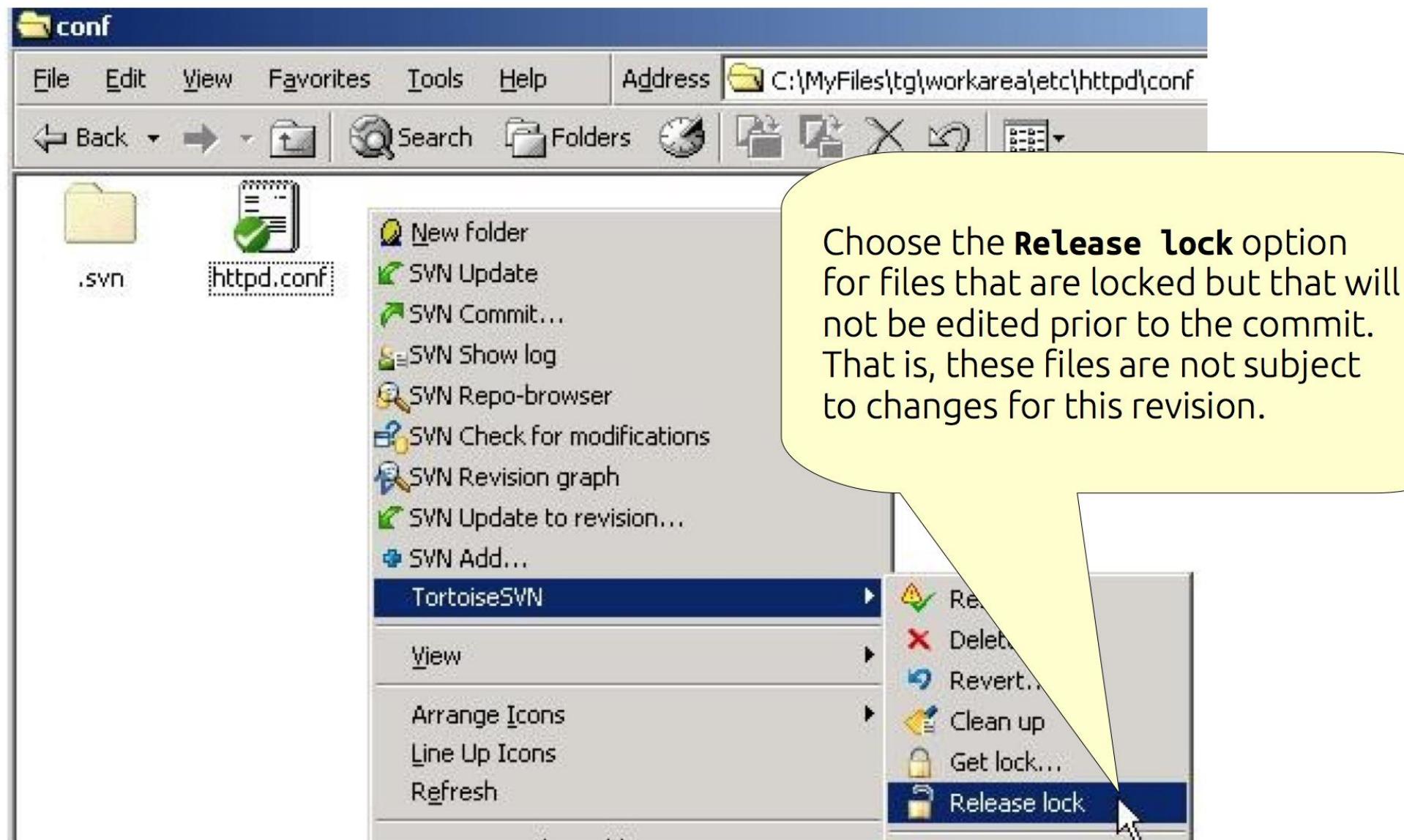
List of files modified since the last Update operation.

All checked files will be reverted. To prevent a modified file from losing its changes, un-check the box preceding the file name.

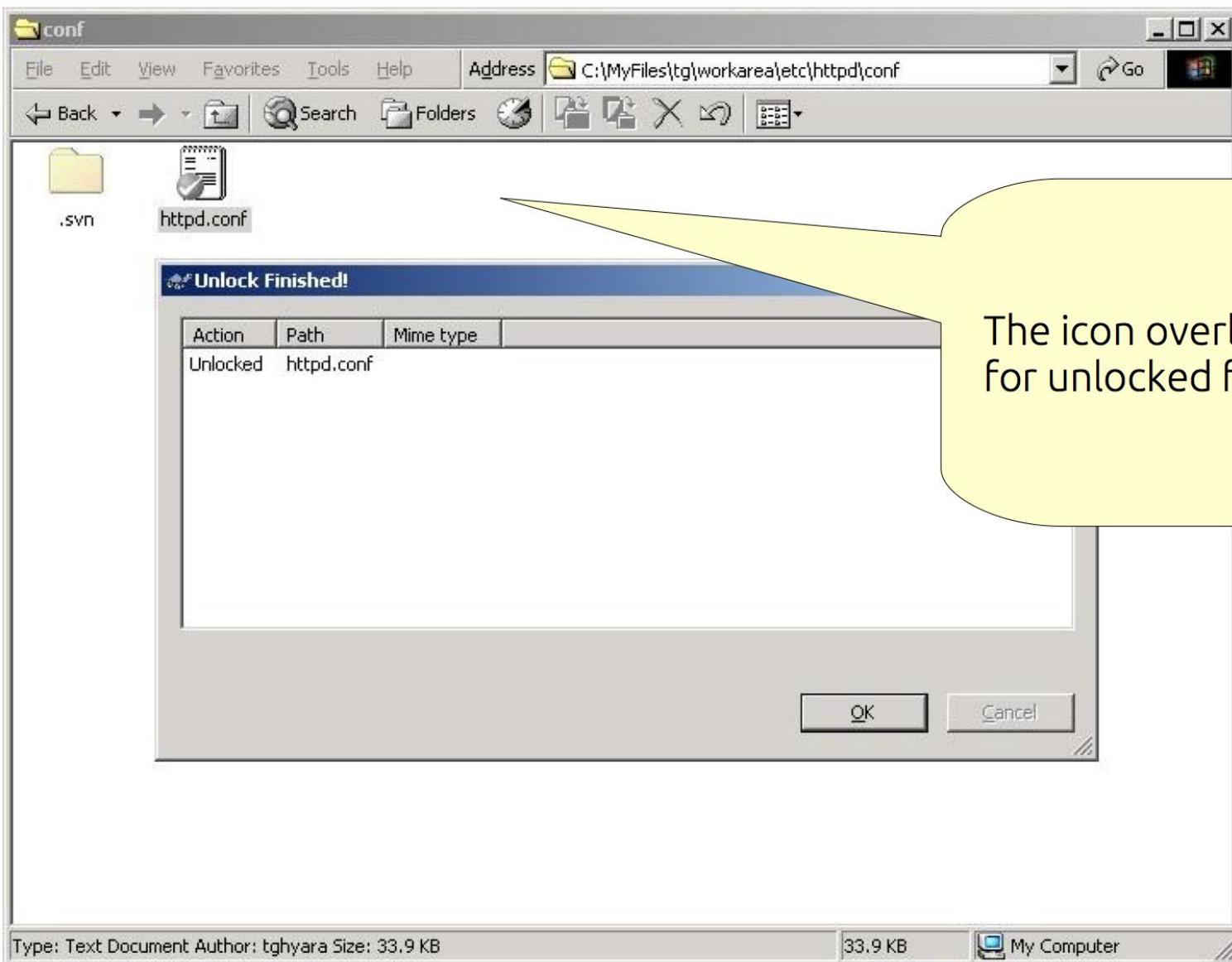
Undoing Changes-3



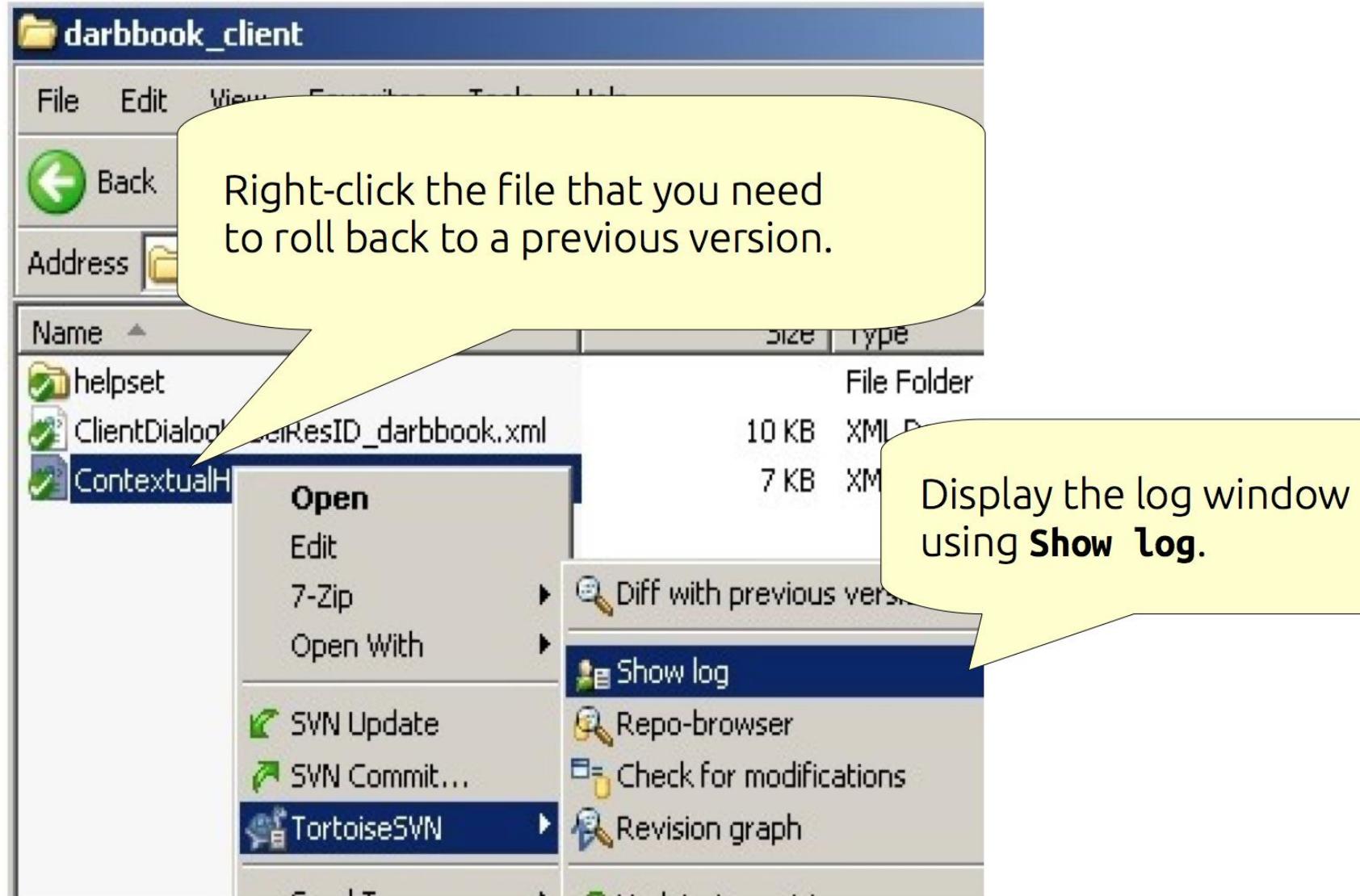
Releasing Locks



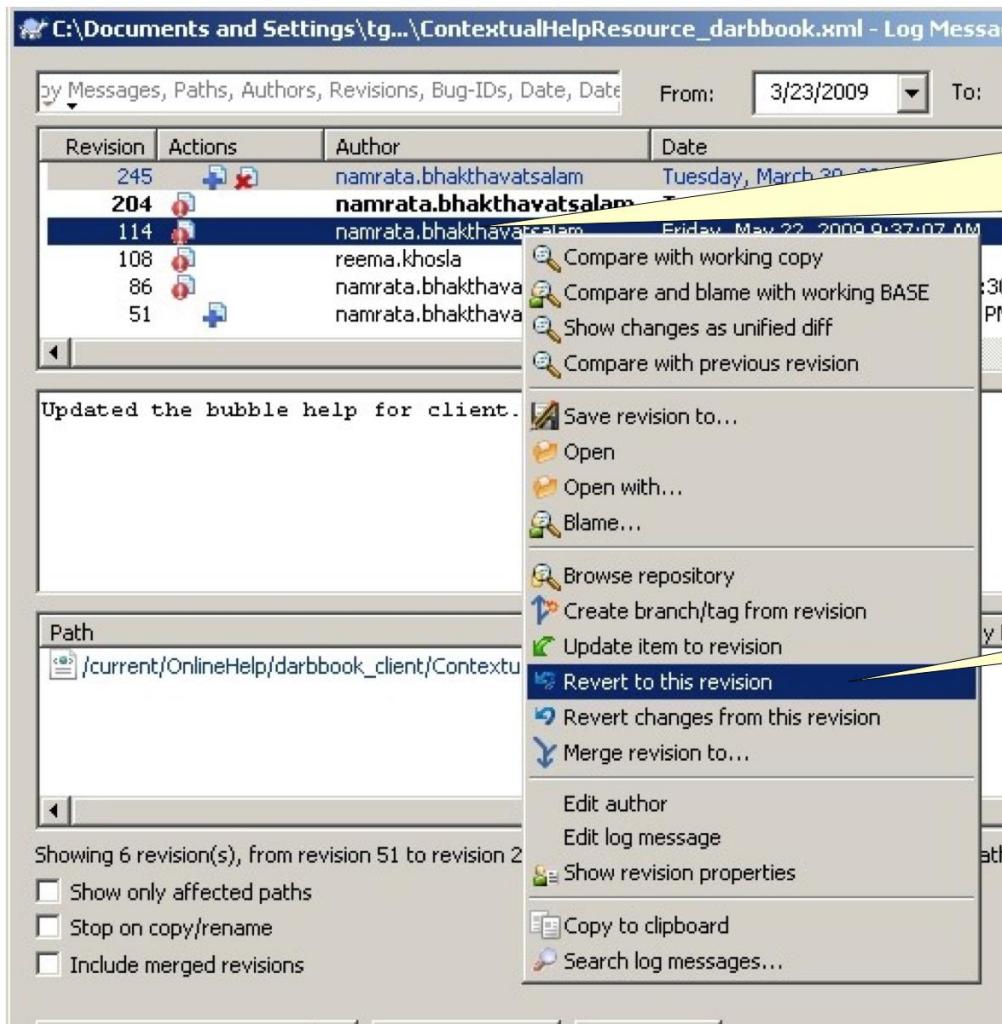
Releasing Locks-2



Rolling Files Back To An Older Revision



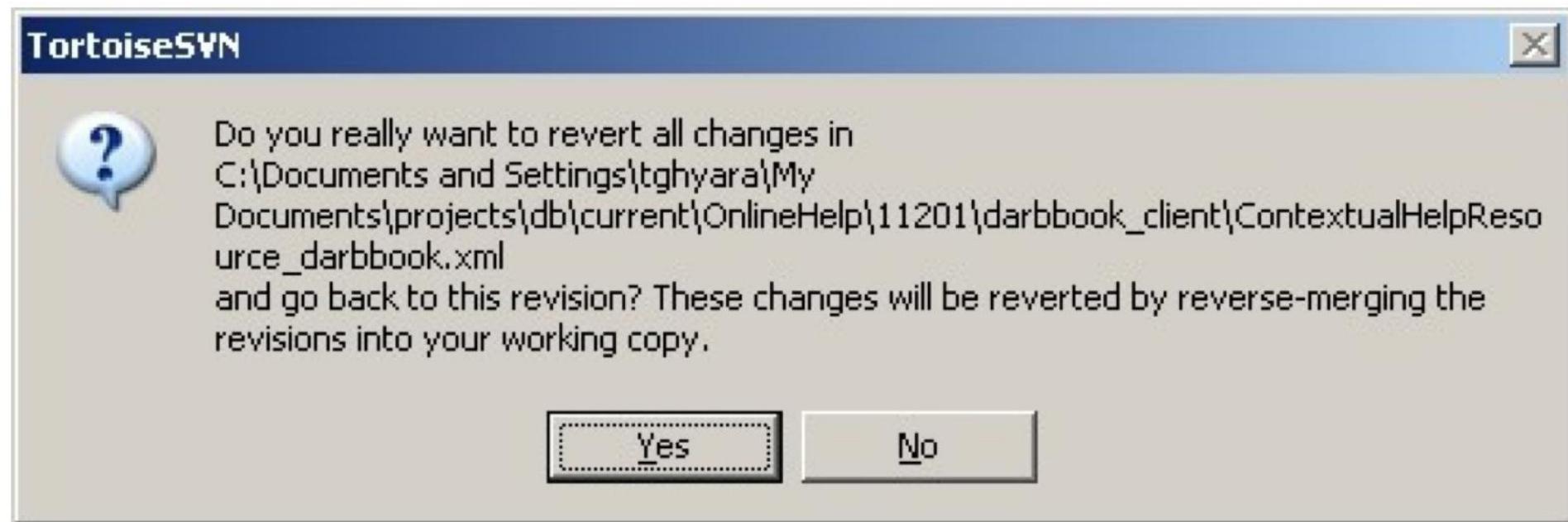
Rolling A File Back To An Earlier Revision -2



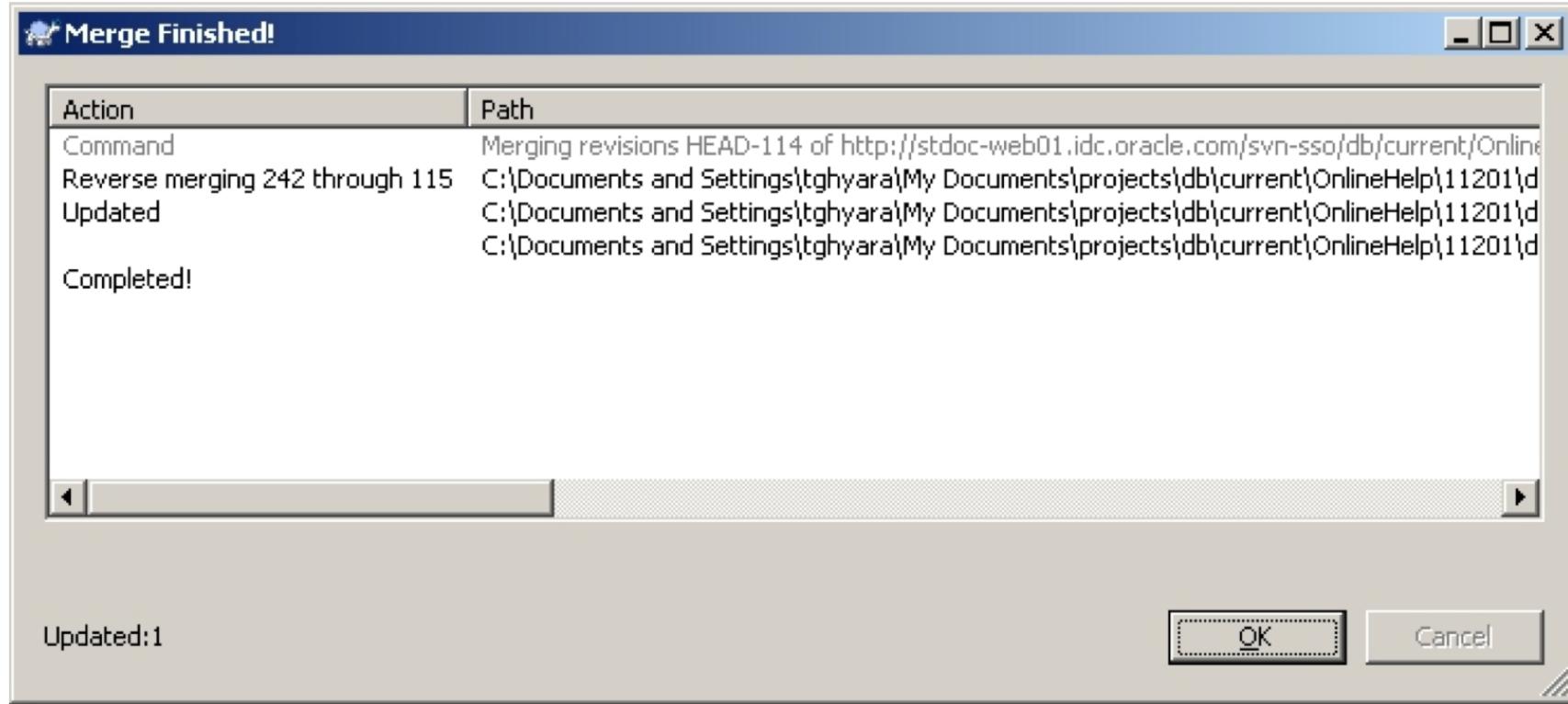
1. Right-click the required version.

2. Select **Revert to this revision**.

Rolling A File Back To An Earlier Revision -3



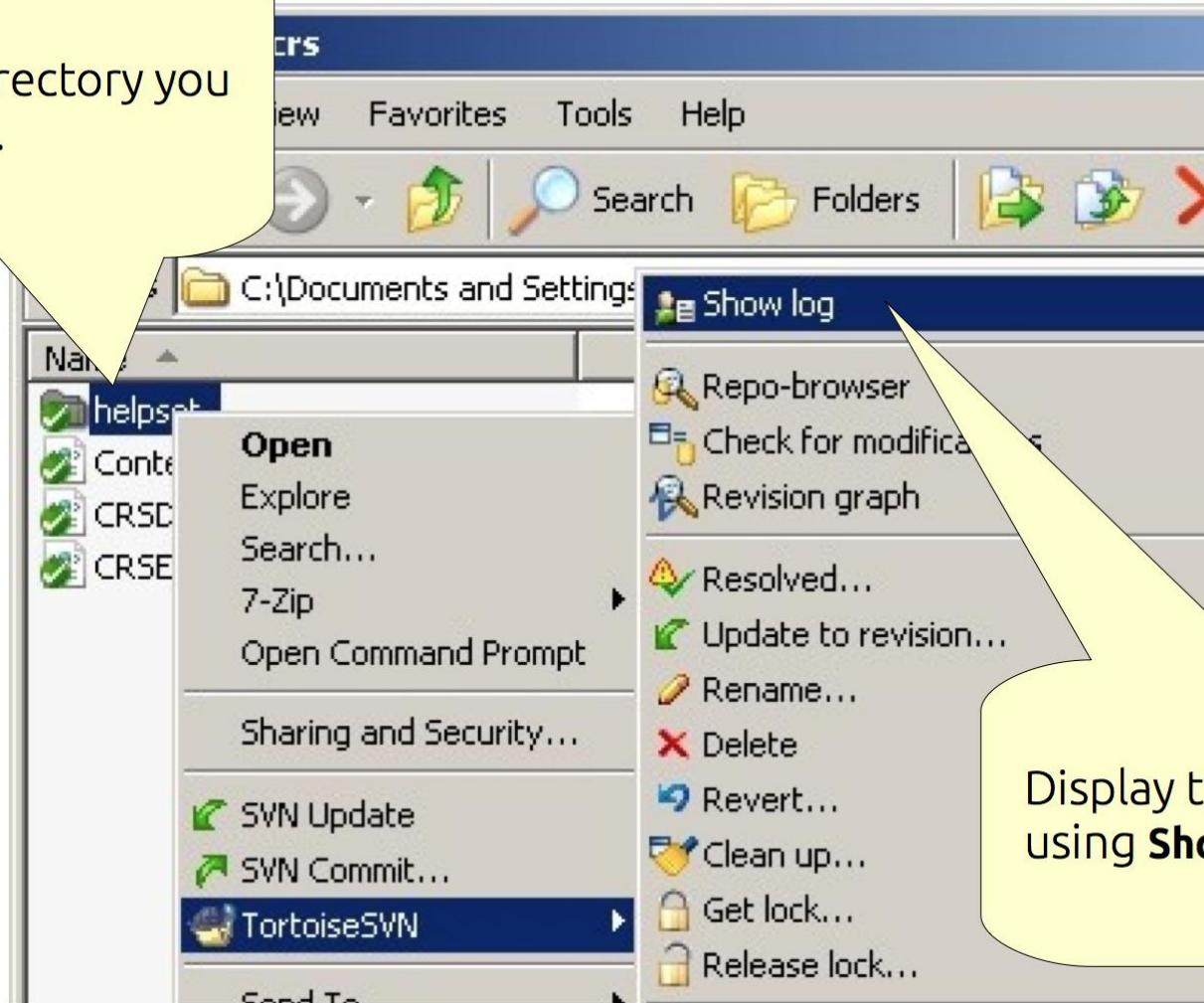
Rolling A File Back To An Earlier Revision -4



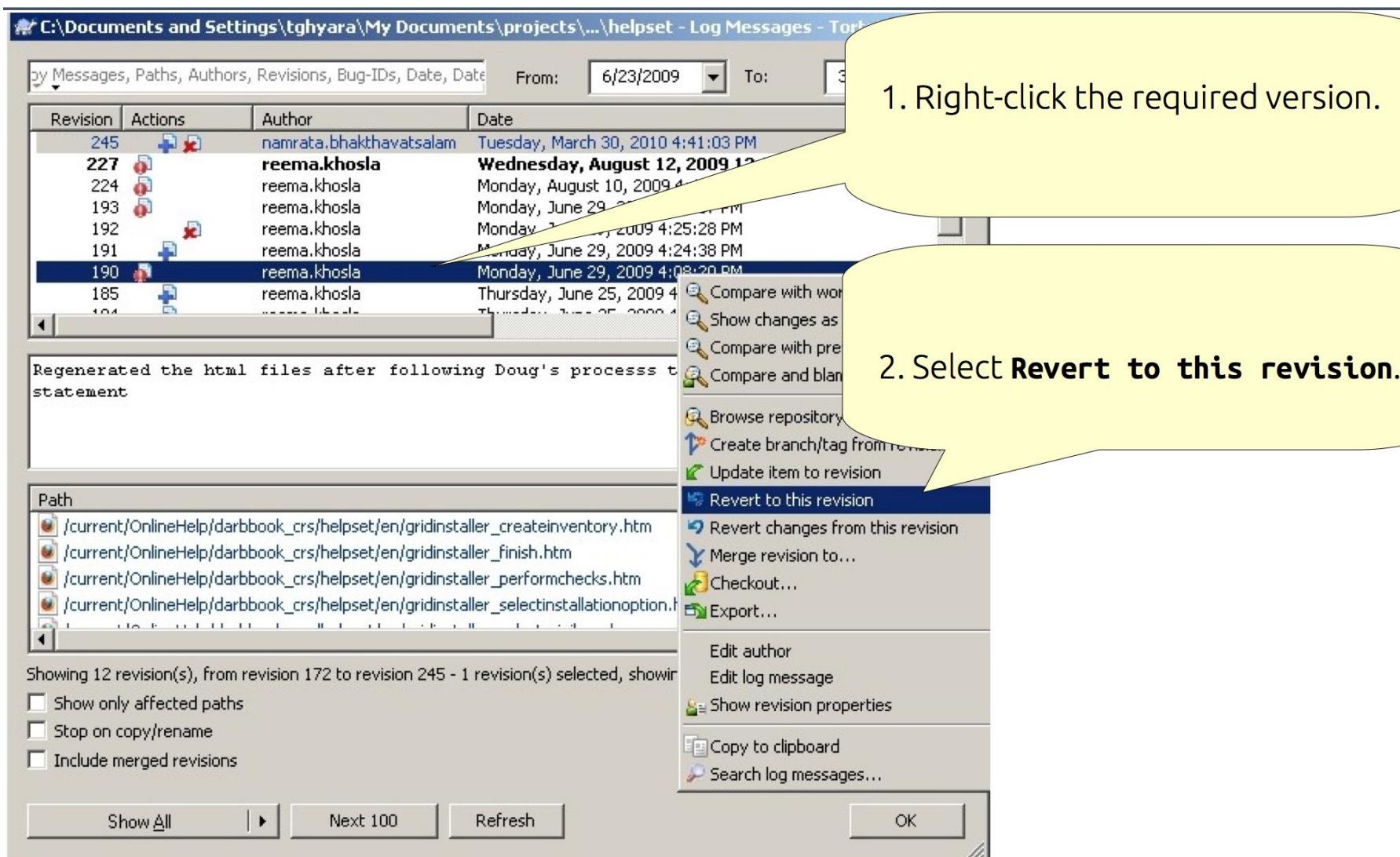
If the file was rolled back erroneously, use the Revert procedure described earlier to revert the file back to the state prior to the roll back.

Rolling A Directory Back To An Older Revision

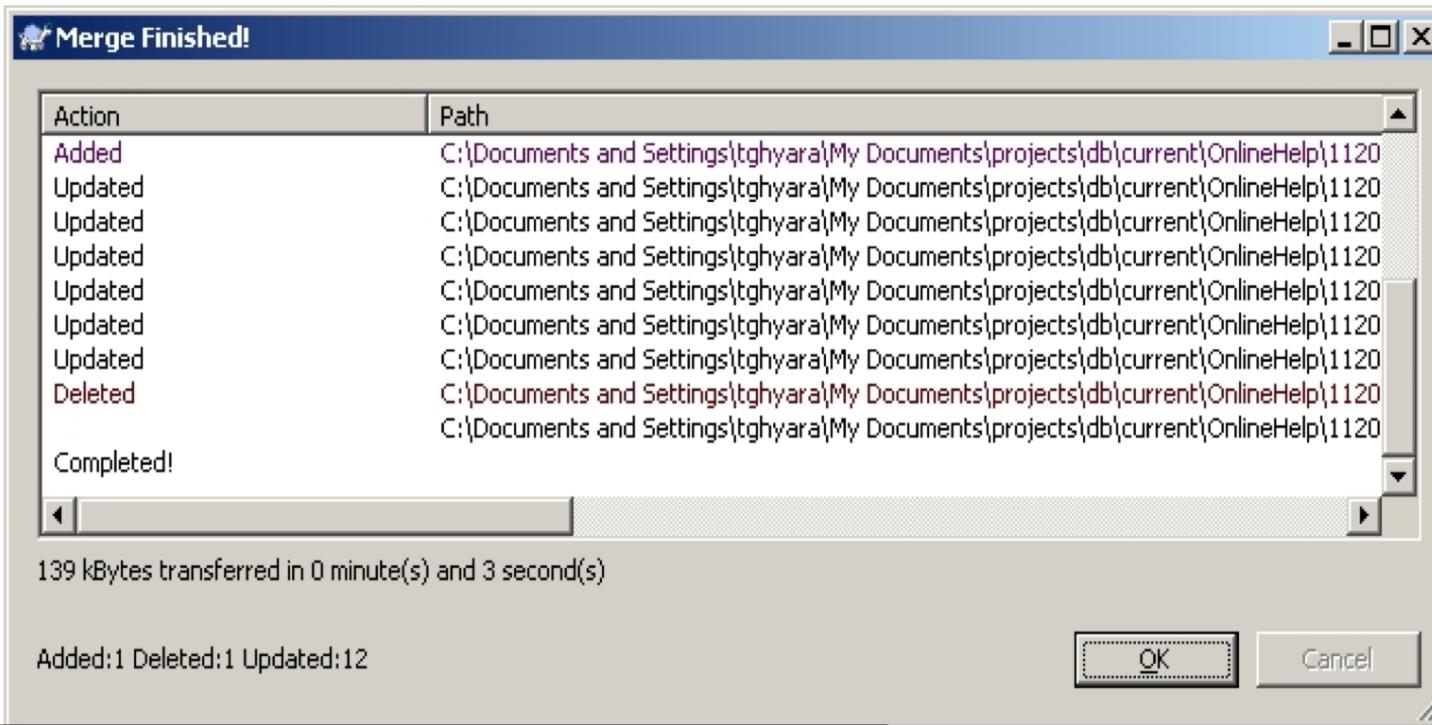
Right-click the directory you need to roll back.



Rolling A Directory Back To An Earlier Revision -2



Rolling A Directory Back To An Earlier Revision -3

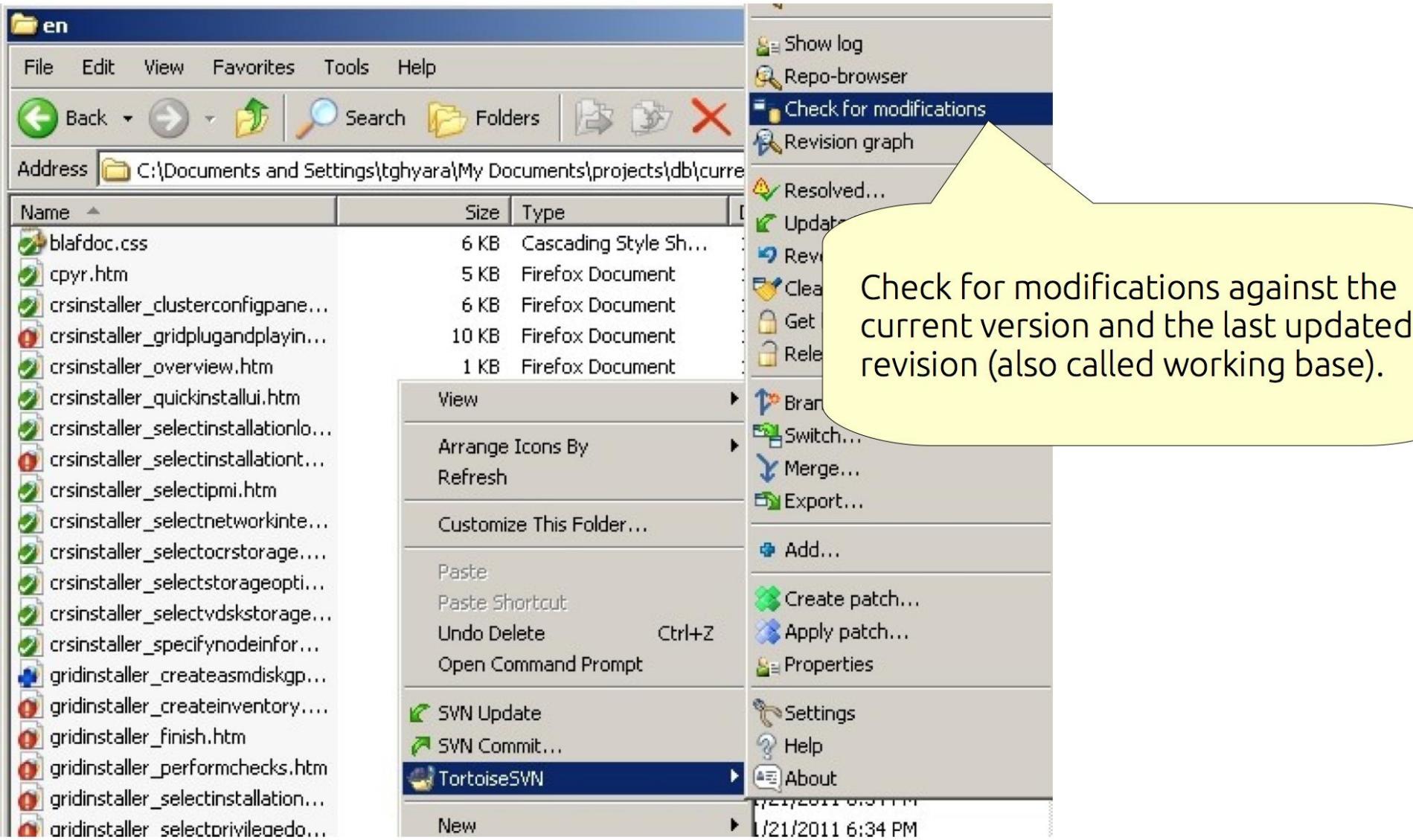


!WARNING!

=====

When reverting the complete working directory to older revisions, files that did not exist in older revisions will be **deleted**. Recover these files using the procedure to Revert changes as described earlier.

Checking For Modifications



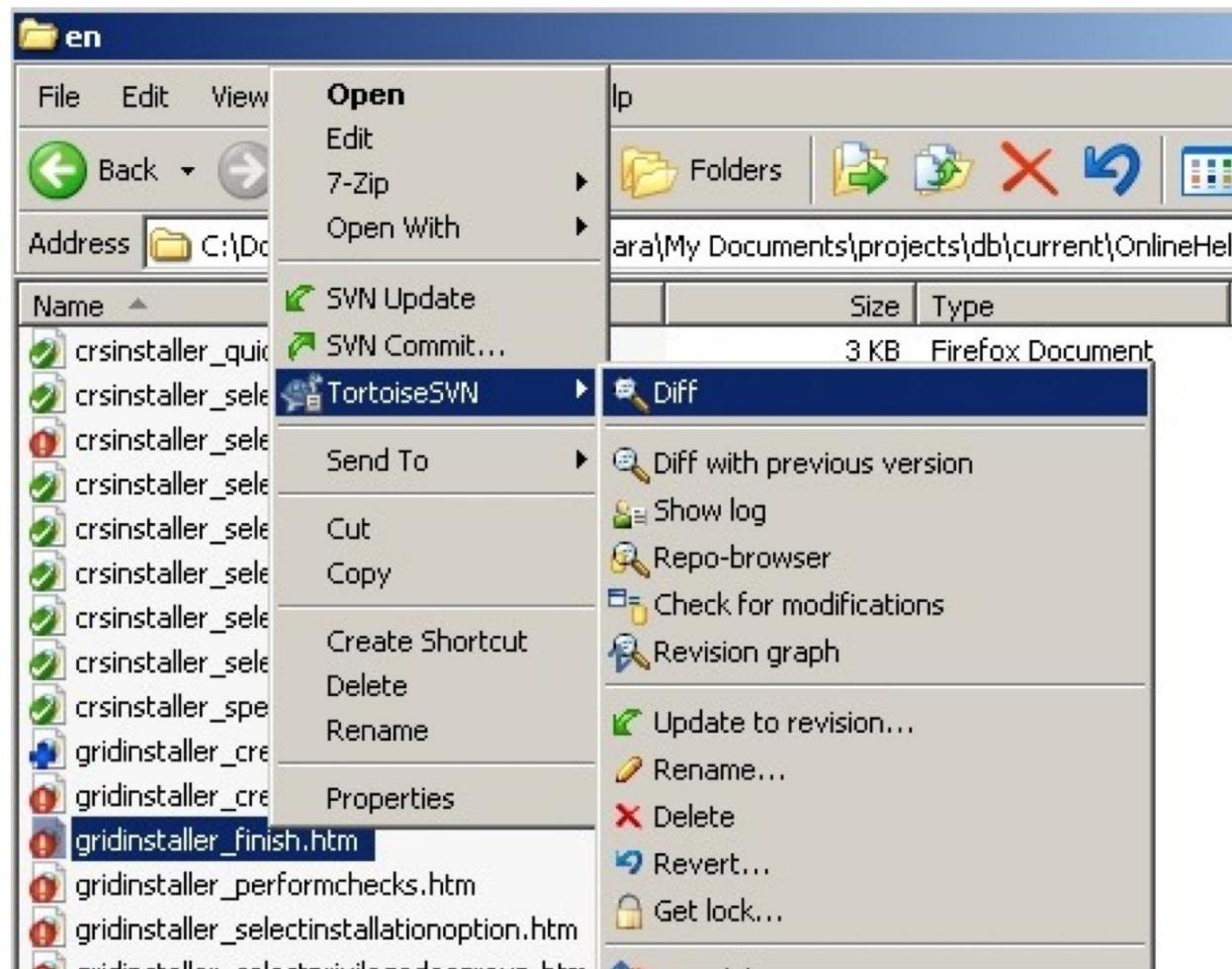
Checking For Modifications-2

The screenshot shows the TortoiseSVN 'Working Copy' dialog. The title bar reads 'C:\Documents and Settings\tghyara\My Documents\projects\db\cu...\en - Working Copy - TortoiseSVN'. The main area is a table with columns: Path, Extension, Status, Prop..., Remot..., Remote ..., Lock, Lock..., Author, Re... . The table lists files under the 'en' directory, showing their status relative to the repository. A yellow callout bubble points to the table with the text: 'List of files in the working copy that differ from the files in the working base.' At the bottom left, there's a section titled 'Items to show' with checkboxes for Directories, Files, Unversioned, and Unmodified, and checkboxes for Ignored, Properties, and Items in externals. The status bar at the bottom right shows 'normal=13, non-versioned=0, modified=13, added=1, deleted=1, conflicted=0, Switched=0' and 'Lowest shown revision: 136 - Highest shown revision: 227'. Buttons for Refresh, Check repository, and OK are also visible.

Path	Extension	Status	Prop...	Remot...	Remote ...	Lock	Lock...	Author	Re...
en		modified (property change only)	modified					reem...	227
crsinstaller_gridplugandplayinfo.htm	.htm	modified						reem...	227
crsinstaller_selectinstallationtype.htm	.htm	modified						reem...	227
gridinstaller_createasmdiskgp.htm	.htm	deleted							
gridinstaller_createasmdiskgp.html	.html	added (+)						reem...	136
gridinstaller_createinventory.htm	.htm	modified							227
gridinstaller_finish.htm	.htm	modified							227
gridinstaller_performchecks.htm	.htm	modified							227
gridinstaller_selectinstallationoption.htm	.htm	modified							227
gridinstaller_selectprivilegedosgroup.htm	.htm	modified							227
gridinstaller_selectprodlanguage.htm	.htm	modified							227
gridinstaller_setup.htm	.htm	modified							227
gridinstaller_specifyasmpassword.htm	.htm	modified							227
gridinstaller_specificinstallationloc.htm	.htm	modified							227

Use this button to check the files in the working copy which differ from those in the repository. This is a slow operation if you have too many files in the repository.

Viewing Version Differences Between Text Files



gridinstaller_finish.htm - TortoiseMerge

File Edit Navigate View Help

gridinstaller_finish.htm : Working Base, Revision 1

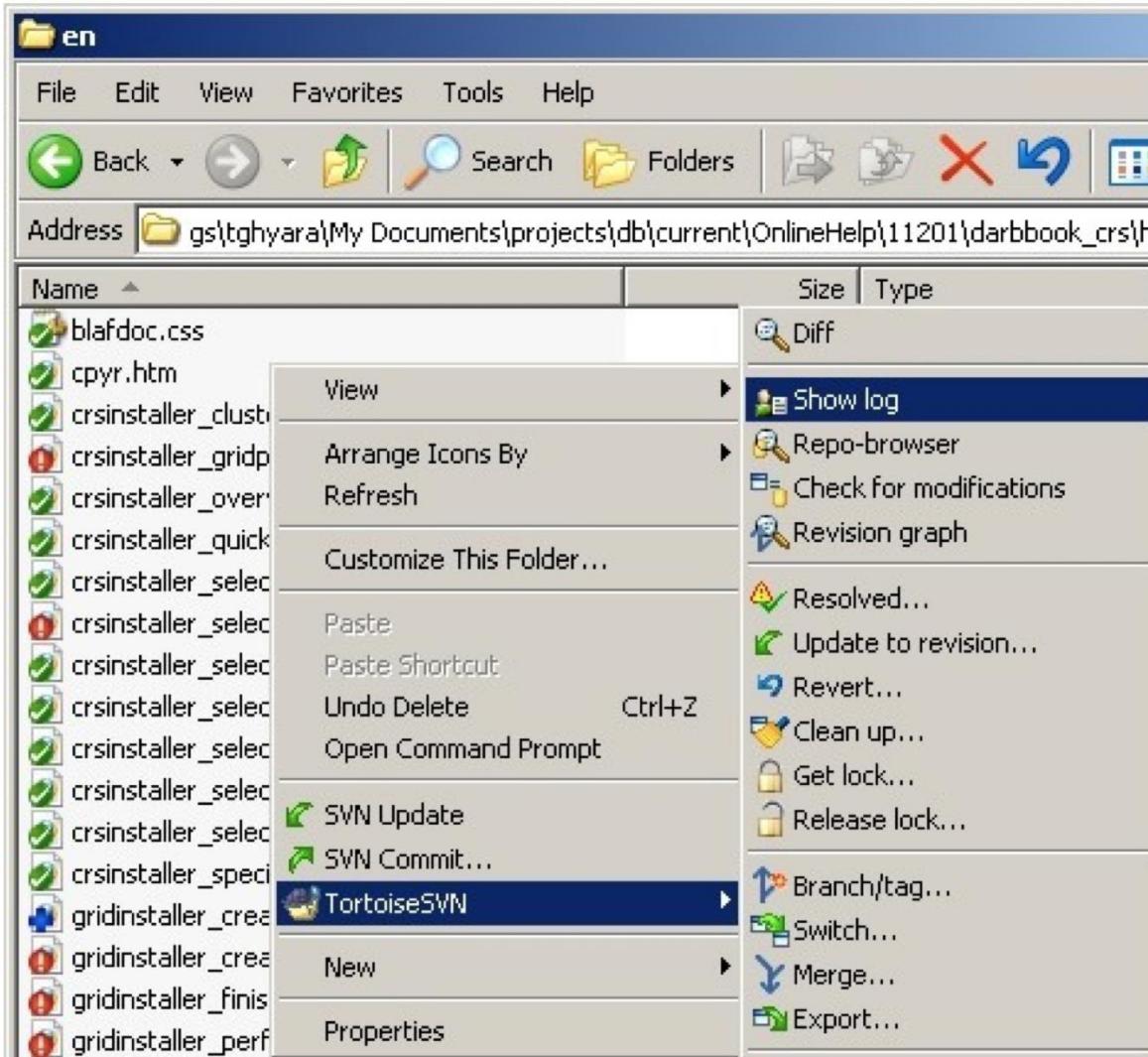
```
1 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
2 --- "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
3 <html xmlns="http://www.w3.org/1999/xhtml">
4 <head>
5 <meta name="OAC_IGNORE_SKIP_NAV" content="true"/>
6 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8"/>
7 <meta http-equiv="Content-Style-Type" content="css"/>
8 <meta http-equiv="Content-Script-Type" content="js"/>
9 <title>Finish</title>
10 <meta name="generator" content="Oracle Database 11g Express Edition"/>
11 <meta name="date" content="2009-06-30T18:49:44"/>
12 <meta name="robots" content="noarchive"/>
13 <meta name="doctitle" content="Finish"/>
14 <meta name="relnum" content="Release 11.2"/>
15 <meta name="partnum" content="A12345-01"/>
16 <link rel="copyright" href="./cpyr.htm"/>
17 <link rel="stylesheet" href="./blafdec.css"/>
18 </head>
19 <body>
20 <div class="sect1"><a id="sthref7" name="sthref7">
21 <h1>Finish</h1>
22 <p>This dialog shows that the installation
23 <p>Click <span class="bold">Close</span>.
24 </div>
25 <!-- class="sect1" -->
<meta name="OAC_IGNORE_SKIP_NAV" content="true"/>
<meta name="OAC_IGNORE_SKIP_NAV" content="true"/>
```

gridinstaller_finish.htm : Working Copy

```
1 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
2 --- "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
3 <html xmlns="http://www.w3.org/1999/xhtml">
4 <head>
5 <meta name="OAC_IGNORE_SKIP_NAV" content="true"/>
6 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8"/>
7 <meta http-equiv="Content-Style-Type" content="css"/>
8 <meta http-equiv="Content-Script-Type" content="js"/>
9 <title>Finish</title>
10 <meta name="generator" content="Oracle Database 11g Express Edition"/>
11 <meta name="date" content="2009-06-29T12:49:44"/>
12 <meta name="robots" content="noarchive"/>
13 <meta name="doctitle" content="Finish"/>
14 <meta name="relnum" content="Release 11.2"/>
15 <meta name="partnum" content="A12345-01"/>
16 <link rel="copyright" href="./cpyr.htm"/>
17 <link rel="stylesheet" href="./css/blafdc.css"/>
18 </head>
19 <body>
20 <div class="sect1"><a id="sthref7" name="sthref7">
21 <h1>Finish</h1>
22 <p>This dialog shows that the installation
23 <p>Click <span class="bold">Close</span>.
24 </div>
25 <!-- class="sect1" -->
<meta name="OAC_IGNORE_SKIP_NAV" content="true"/>
<meta name="OAC_IGNORE_SKIP_NAV" content="true"/>
```

For Help, press F1. Scroll horizontally with Ctrl-Scrollwheel. Left View: ASCII CRLF / - 3 Right View: ASCII CRLF / + 3 Conflicts: 0 CAP NUM SCRL

Viewing Version Differences Between Specific Revisions



Viewing Version Differences Between Specific Revisions-2

C:\Documents and Settings\tghyara\My Documents\projects\db\cu...en - Log Message

by Messages, Paths, Authors, Revisions, Bug-IDs, Date, Date From: 3/23/2009 To:

Revision	Actions	Author	Date
245		namrata.bhakthavatsalam	Tuesday, March 30, 2010 4:41:03 PM
227		reema.khosla	Wednesday, August 12, 2009 12:13:12
224		reema.khosla	Monday, August 10, 2009 4:41:45 PM
193		reema.khosla	Monday, June 29, 2009 4:26:37 PM
192		reema.khosla	Monday, June 29, 2009 4:25:28 PM
191		reema.khosla	
190			
185			

To compare revision 245 and 190, control click the revisions, right-click and choose **Compare revisions**.

r245
Moved darbbook_client, darbbook removedfor112 into 11201/

r190
Regenerated the html files after fol statement

Copy to clipboard
Search log messages...

Path	Action
current OnlineHelp/11201 FM_source	
current OnlineHelp/11201 FM_source	

Viewing Version Differences Between Specific Revisions-3

Changed Files

Difference between
<http://stdoc-web01.idc.oracle.com/svn-s>
and
<http://stdoc-web01.idc.oracle.com/svn-s>

Lists all files that differ across the selected revisions.
Right-click any file and choose **Compare revisions** to view the difference between the two files.
(This will not work if the file is a binary file)

A screenshot of a Windows context menu. The menu items are: Compare revisions (highlighted), Show differences as unified diff, Blame changes, Show log, Save list of selected files to..., Copy selection to clipboard, and Export selection to...

File

File	Action
gridinstaller_createasmdiskgp.html	Deleted
crsinstaller_selectinstallationtype.htm	Modified
gridinstaller_createasmdiskgp.htm	Added
gridinstaller_selectprodlanguage.htm	Modified
gridinstaller_selectprivilegedosgroup.htm	Modified
gridinstaller_finish.htm	Modified
gridinstaller_createinventory.htm	Modified
gridinstaller_specifyinstallationloc.htm	Modified
gridinstaller_specifyasmpassword.htm	Modified
gridinstaller_selectinstallationoption.htm	Modified
gridinstaller_performchecks.htm	Modified
gridinstaller_summary.htm	Modified
gridinstaller_setup.htm	Modified

File Edit Navigate View Help

```
gridinstaller_finish.htm Revision 190
5 <meta name="OAC_IGNORE_SKIP_NAV" content="true"/>
6 <meta http-equiv="Content-Type" content="text/html; charset=windows-1252"/>
7 <meta http-equiv="Content-Style-Type" content="text/css"/>
8 <meta http-equiv="Content-Script-Type" content="text/javascript"/>
9 <title>Finish</title><br/>
10 <meta name="generator" content="Oracle Database 11g Express Edition 11.2.0.1.0"/>
11 <meta name="date" content="2009-06-29T12:18:00"/>
12 <meta name="robots" content="noarchive" />
13 <meta name="doctitle" content="Finish" />
14 <meta name="relnum" content="Release-11.2"/>
15 <meta name="partnum" content="A12345-01" />
16 <link rel="copyright" href=".//cpry.htm" type="text/html"/>
17 <link rel="stylesheet" href=".//css/blafdoc.css" type="text/css"/>
18 </head><br/>
19 <body><br/>
20 <div class="sect1"><a id="sthref7" name="sthref7">
21 <h1>Finish</h1><br/>
22 <p>This dialog shows that the installation has completed successfully. You can now close the dialog by clicking the Close button.</p>
23 <p>Click <span class="bold">Close</span> to close this dialog.</p>
24 </div><br/>
25 <!---class="sect1"---><br/>
26 <!---Start-Footer---><br/>
27 <div class="footer"><br/>
28 <table class="simple-oac_no_warn" summary="Footer">
29 <col width="86%" /><br/>
30 <tr><td>Copyright © 2009 Oracle Corporation. All rights reserved.</td></tr>
31 </table><br/>
32 <meta name="doctitle" content="Finish" /><br/>
33 <meta name="doctitle" content="Finish" />
```

```
gridinstaller_finish.htm Revision 245
5 <meta name="OAC_IGNORE_SKIP_NAV" content="true"/>
6 <meta http-equiv="Content-Type" content="text/html; charset=windows-1252"/>
7 <meta http-equiv="Content-Style-Type" content="text/css"/>
8 <meta http-equiv="Content-Script-Type" content="text/javascript"/>
9 <title>Finish</title><br/>
10 <meta name="generator" content="Oracle Database 11g Express Edition 11.2.0.1.0"/>
11 <meta name="date" content="2009-06-30T18:18:00"/>
12 <meta name="robots" content="noarchive" />
13 <meta name="doctitle" content="Finish" />
14 <meta name="relnum" content="Release-11.2"/>
15 <meta name="partnum" content="A12345-01" />
16 <link rel="copyright" href=".//cpry.htm" type="text/html"/>
17 <link rel="stylesheet" href=".//css/blafdoc.css" type="text/css"/>
18 </head><br/>
19 <body><br/>
20 <div class="sect1"><a id="sthref7" name="sthref7">
21 <h1>Finish</h1><br/>
22 <p>This dialog shows that the installation has completed successfully. You can now close the dialog by clicking the Close button.</p>
23 <p>Click <span class="bold">Close</span> to close this dialog.</p>
24 </div><br/>
25 <!---class="sect1"---><br/>
26 <!---Start-Footer---><br/>
27 <div class="footer"><br/>
28 <table class="simple-oac_no_warn" summary="Footer">
29 <col width="86%" /><br/>
30 <tr><td>Copyright © 2009 Oracle Corporation. All rights reserved.</td></tr>
31 </table><br/>
32 <meta name="doctitle" content="Finish" /><br/>
33 <meta name="doctitle" content="Finish" />
```

For Help, press F1. Scroll horizontally with Ctrl-Scroll/wl

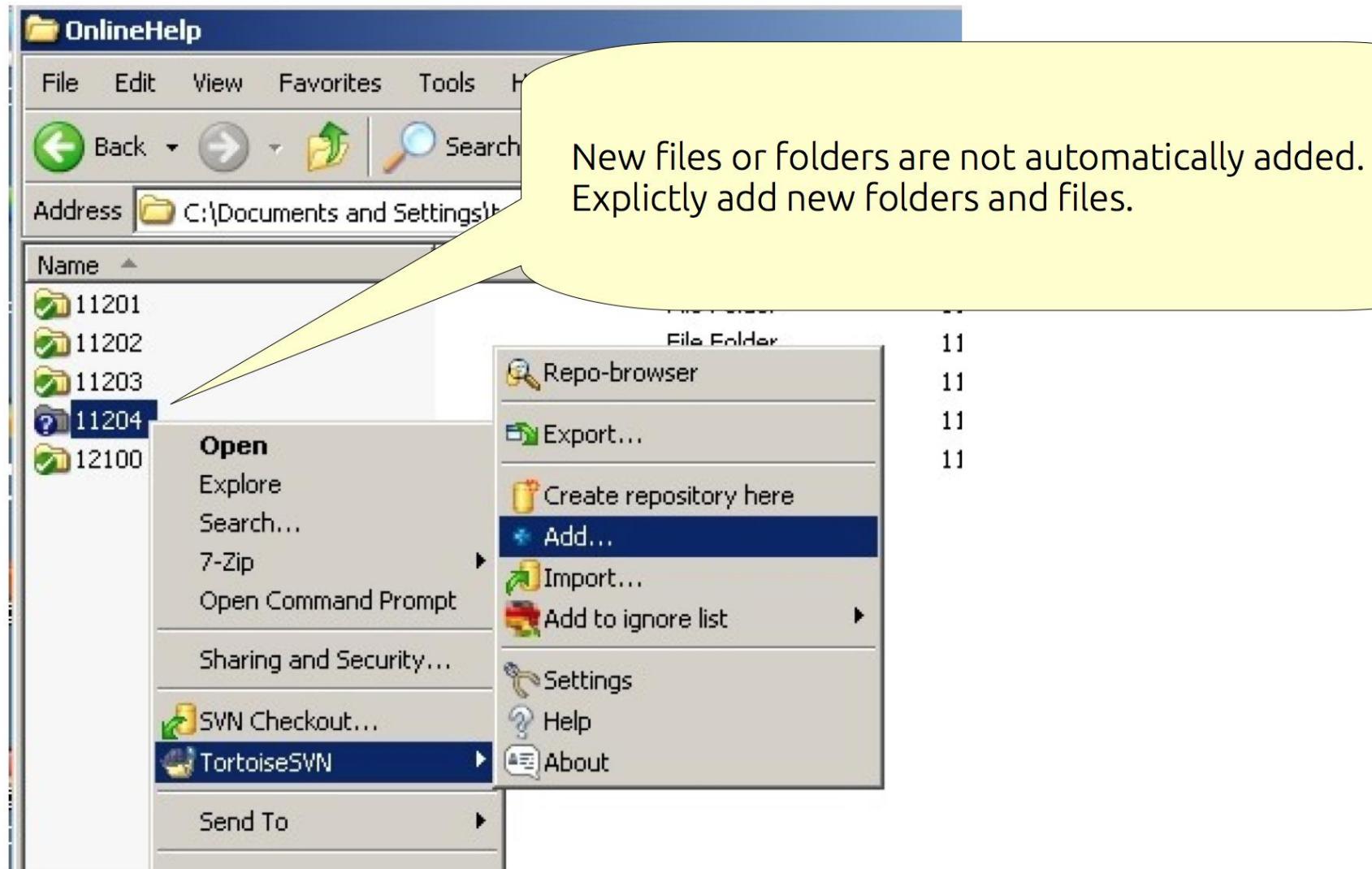
Left View: ASCII CRLF / - 3

Right View: ASCII CRLF / + 3

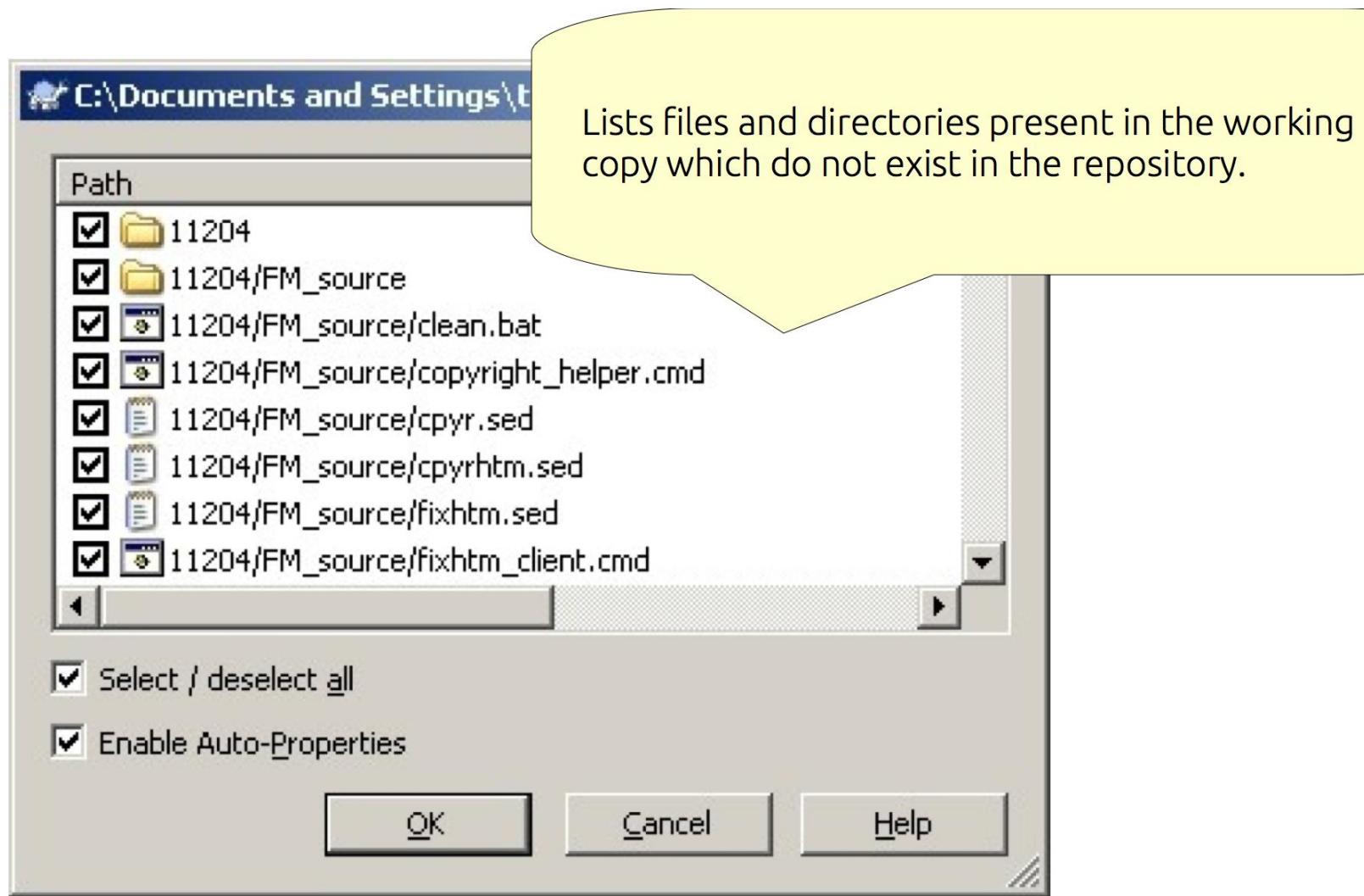
Conflicts: 0

CAP NUM SCRL

Adding New Files To The Repository



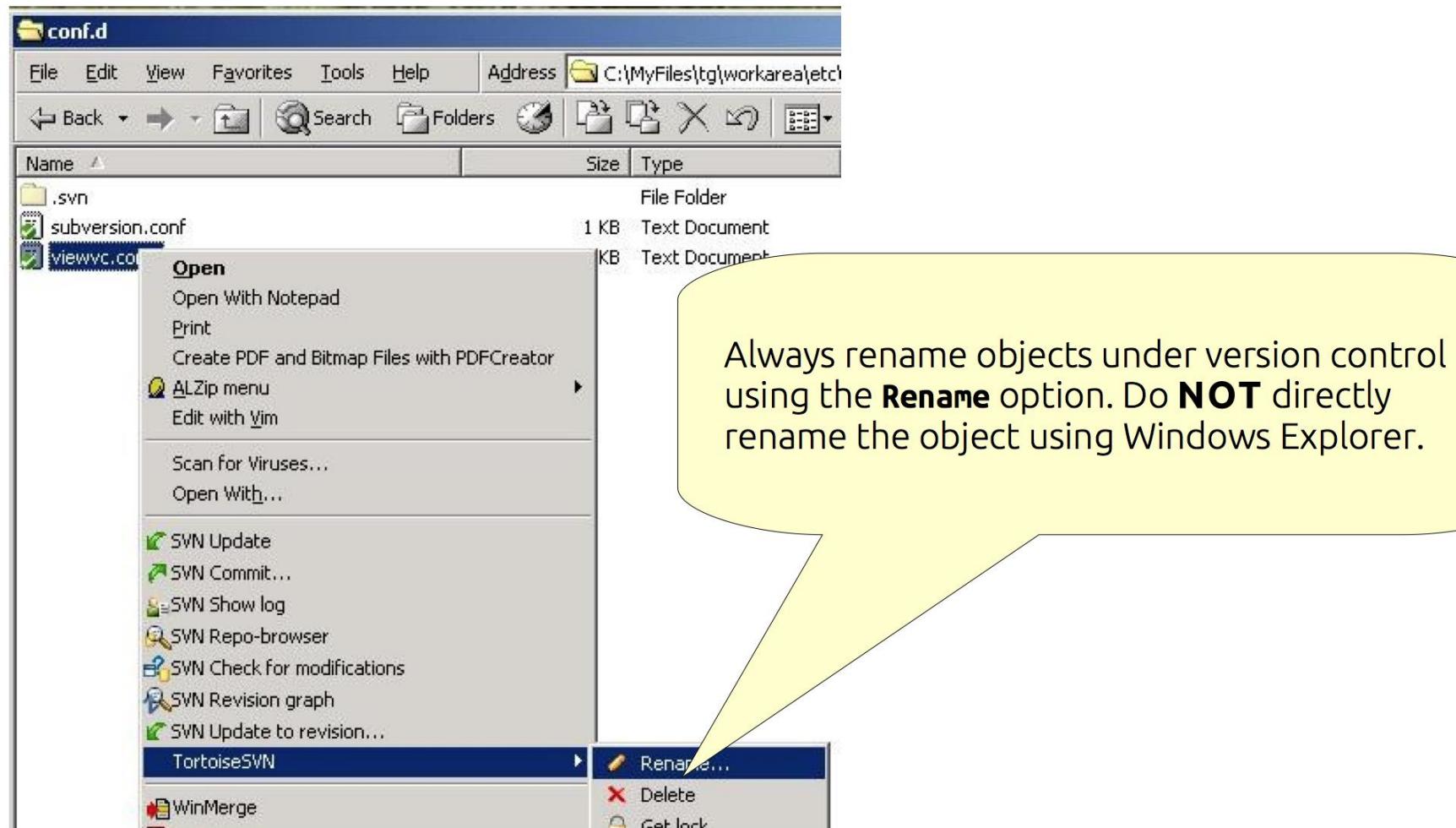
Adding New Files-2



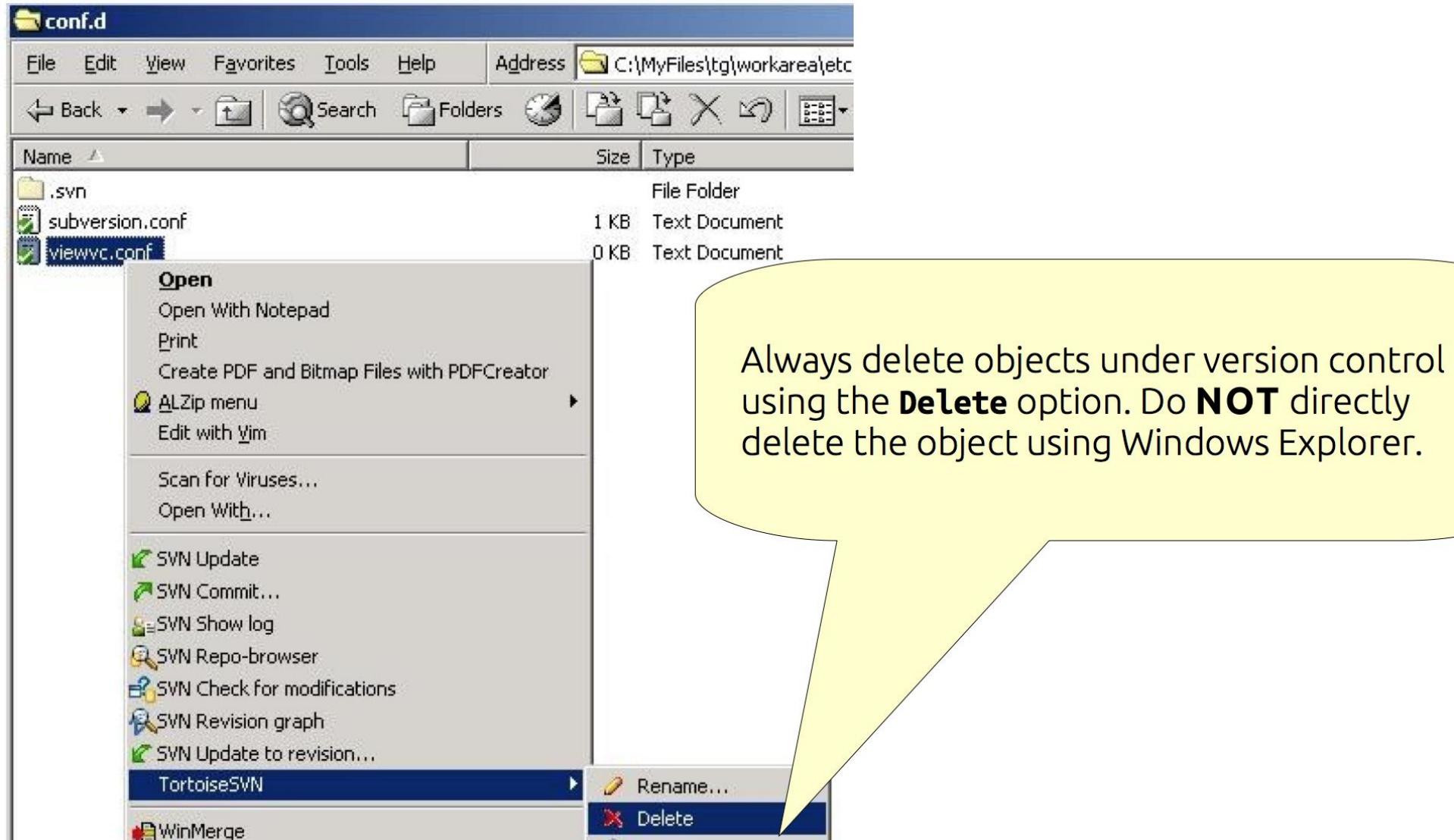
Adding Files Outside The Working copy

- To add files from outside your working copy you can use the drag-and-drop handler:
 - Select the files you want to add
 - Right drag them to the new location inside the working copy
 - Release the right mouse button
 - Select the context menu option:
SVN Copy and Add files to this WC
The files will then be copied to the working copy and added to version control.

Renaming and Deleting Files Under Version Control



Deleting Objects Under Version Control



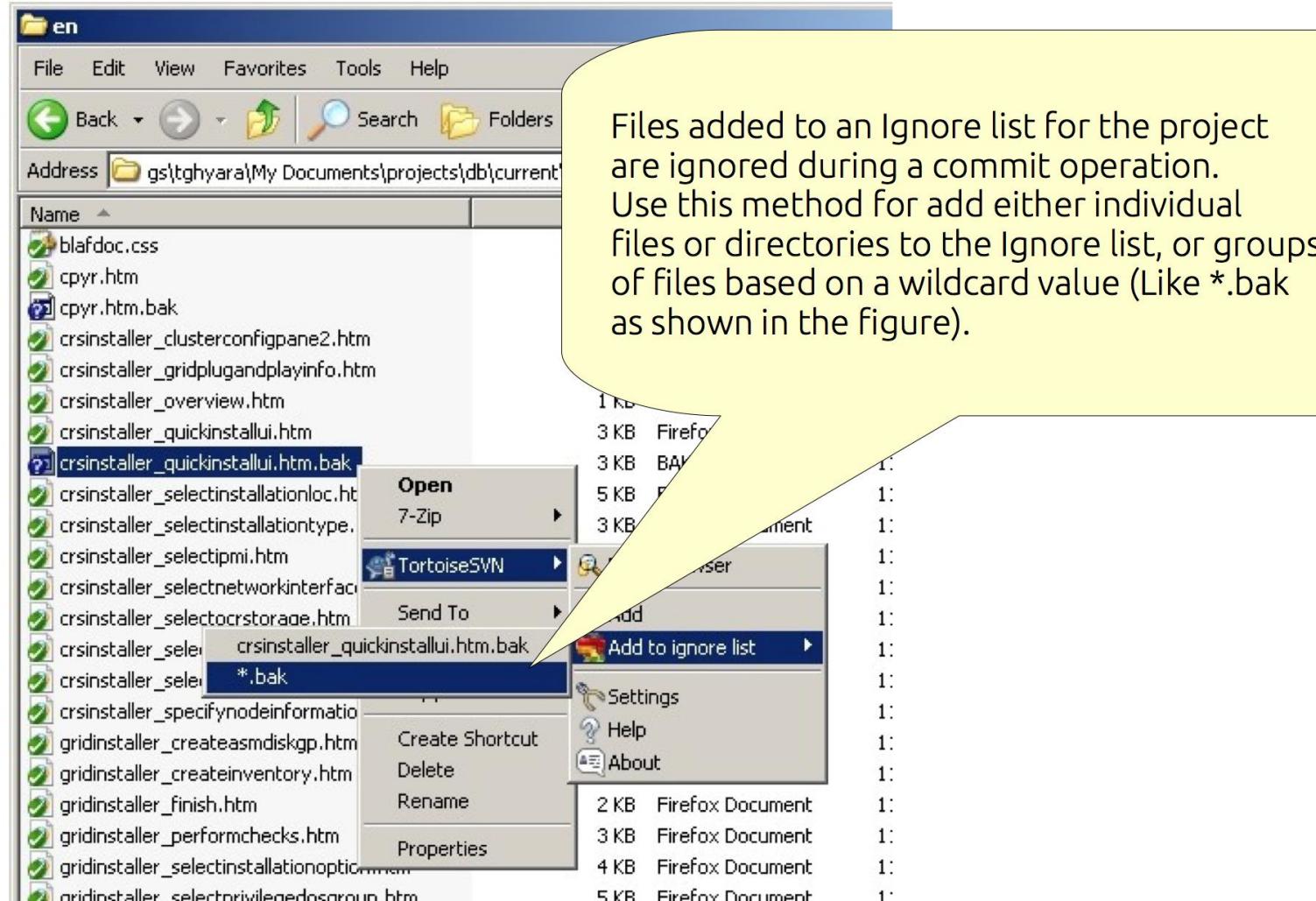
Moving Objects Within The Repository

- To move files inside a working copy, use the drag-and-drop handler again:
 - Select the files or directories you want to move
 - Right drag them to the new location inside the working copy
 - Release the right mouse button
- In the popup menu select
SVN Move Versioned Items Here

Rename/Move/Delete Procedure

- Best way to Rename/Move/Delete files dirs
 - Commit all changes
 - Release all locks(if any remain after the commit)
 - SVN Update
 - Verify no locks are held on objects to be renamed/moved/deleted using the Check for modifications dialog to check the repository status
 - SVN Rename/Move/Delete
 - SVN Commit preferably from the top level folder
 - SVN Update

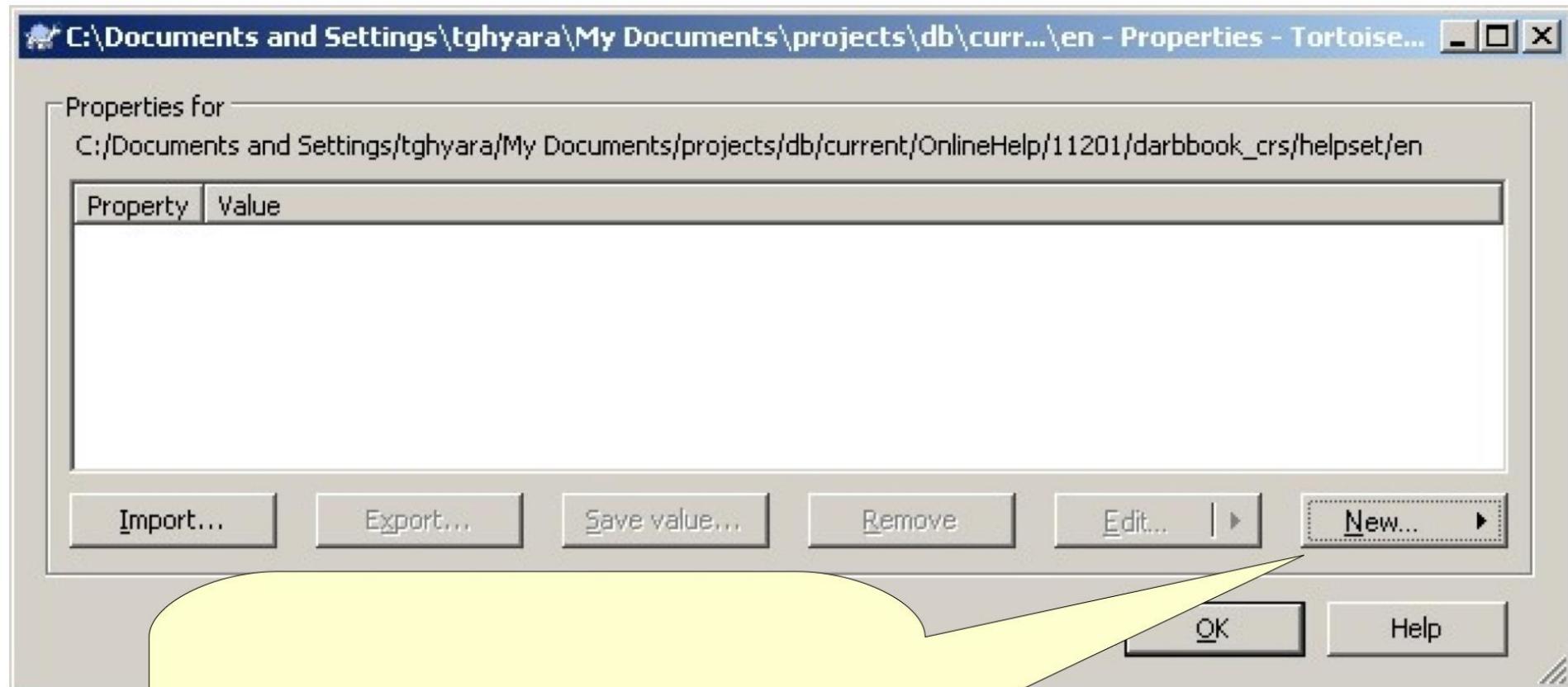
Adding Files/Directories To An Ignore List (Method 1)



Adding Files/Directories To An Ignore List (Method 2)

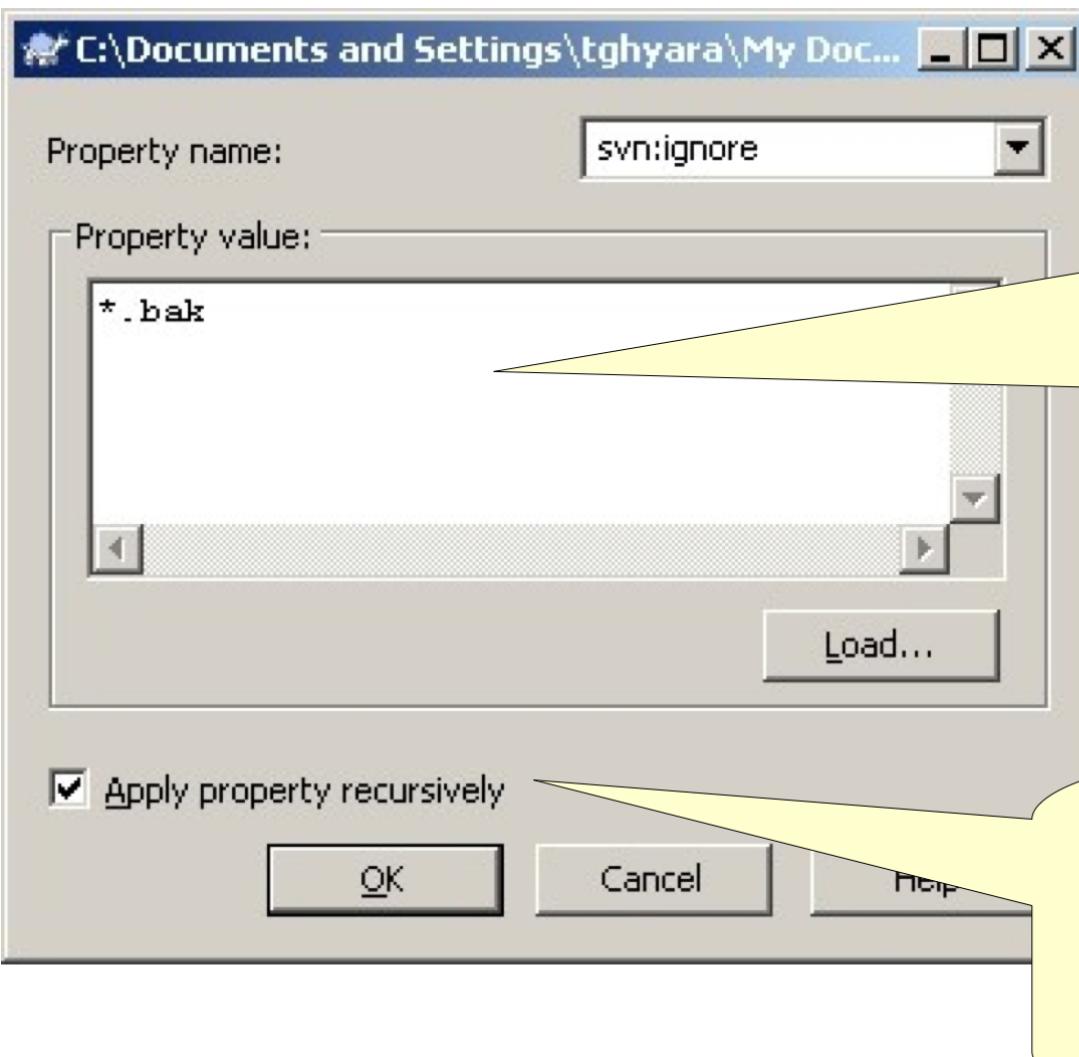
- Right-click the directory containing the files/directories to be ignored for version control
- Choose Properties
- Choose the Subversion Tab

Adding Files/Directories To An Ignore List-3



Press the **|New|** button.

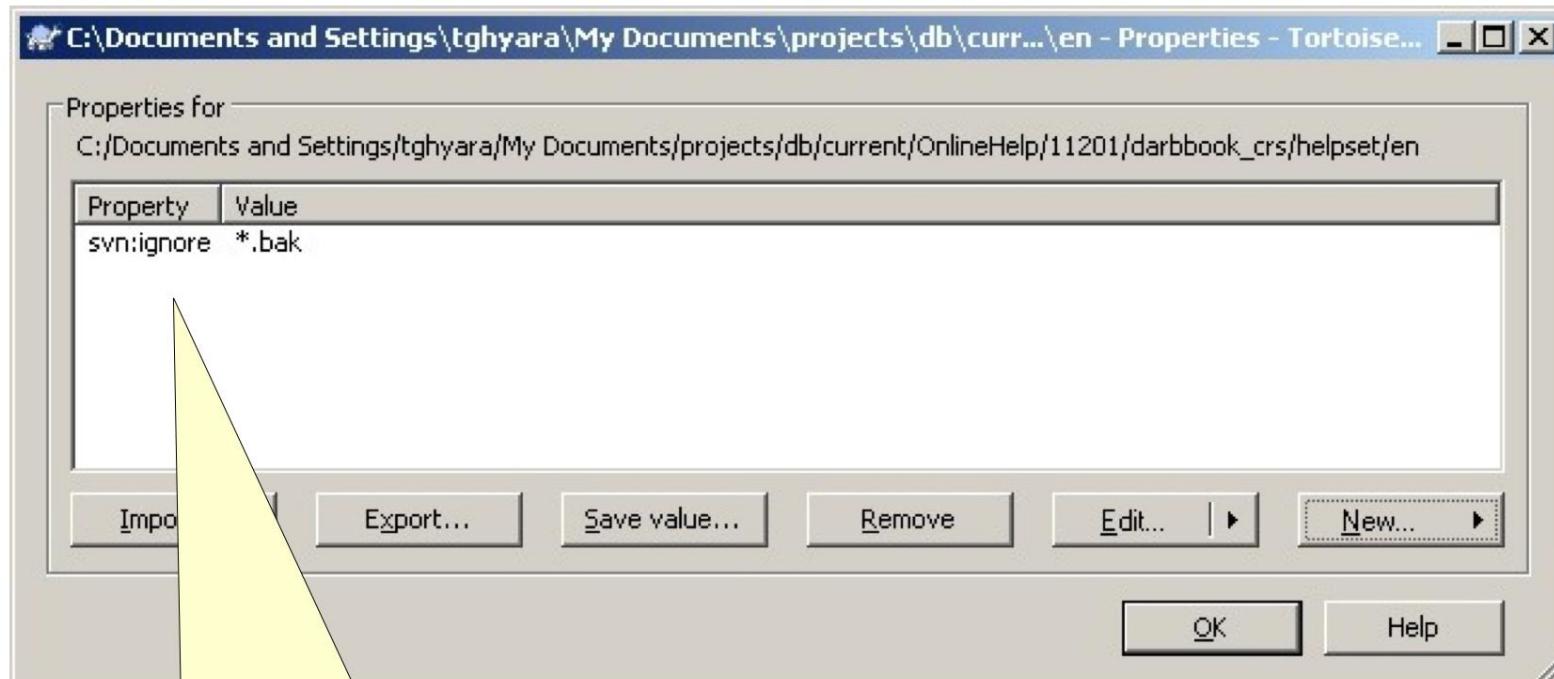
Adding Files/Directories To An Ignore List-5



Enter the list of files and directories to ignore. Ideally these files/directories are generated automatically using either an editor or some kind of build process.

Choose this at the top-level working directory. Alternately, explicitly set the ignore list for every folder within the working directory.

Adding Files/Directories To An Ignore List-6



List of properties that will be set for the folder after pressing the **OK** button

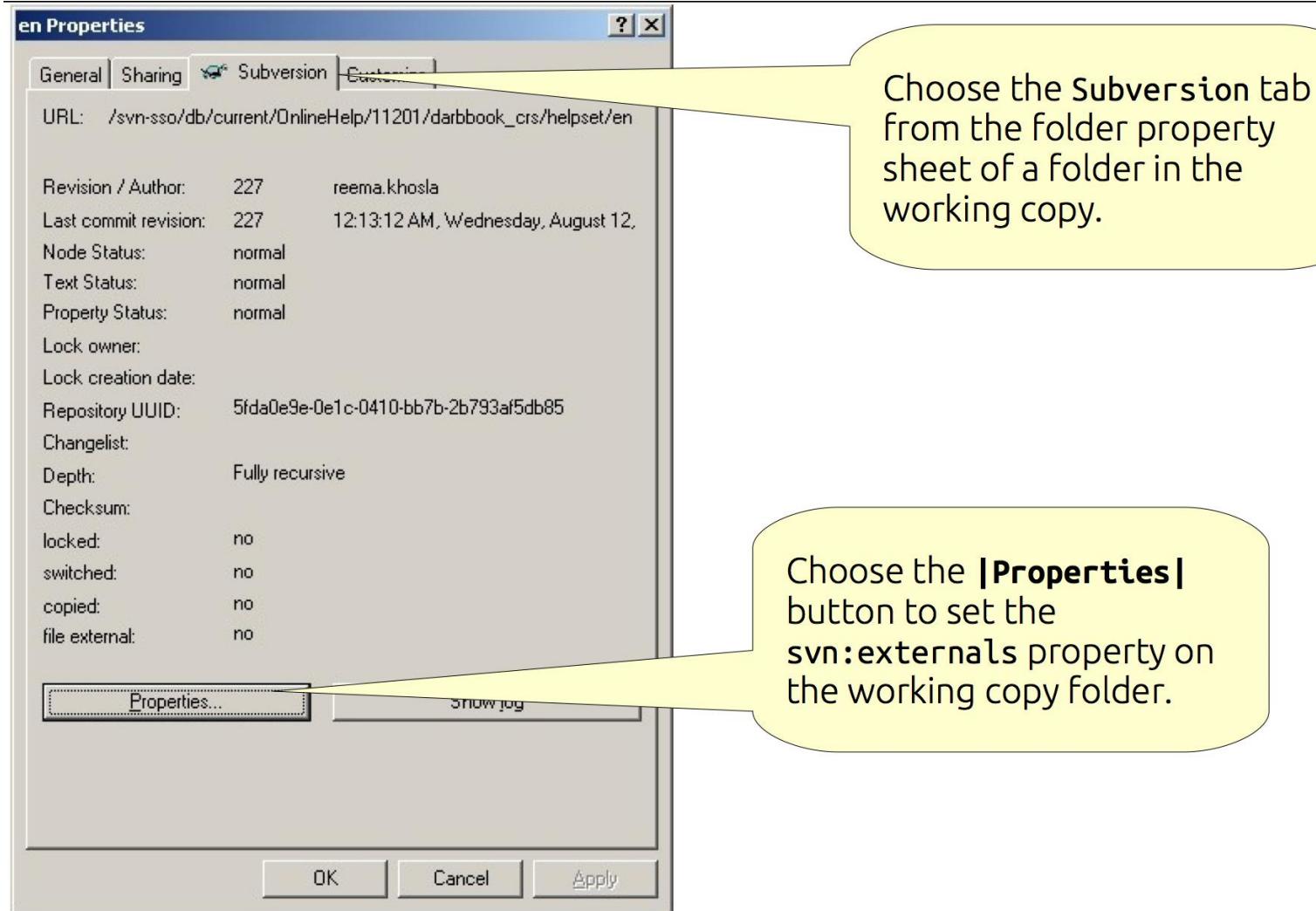
Including A Common Sub-project -1

- A folder checked into a Subversion repository may need to be referenced elsewhere
 - within the same project, or
 - within a different project on the same Subversion server
 - within a different project on some other Subversion server
- These folders can be referenced making use of the svn:externals property
 - svn:externals property syntax:
⊗ *folder* [-r *revision_number*] *svn_repository_url*
 - A subsequent checkout or update automatically creates *folder* whose contents are obtained from *svn_repository_url*

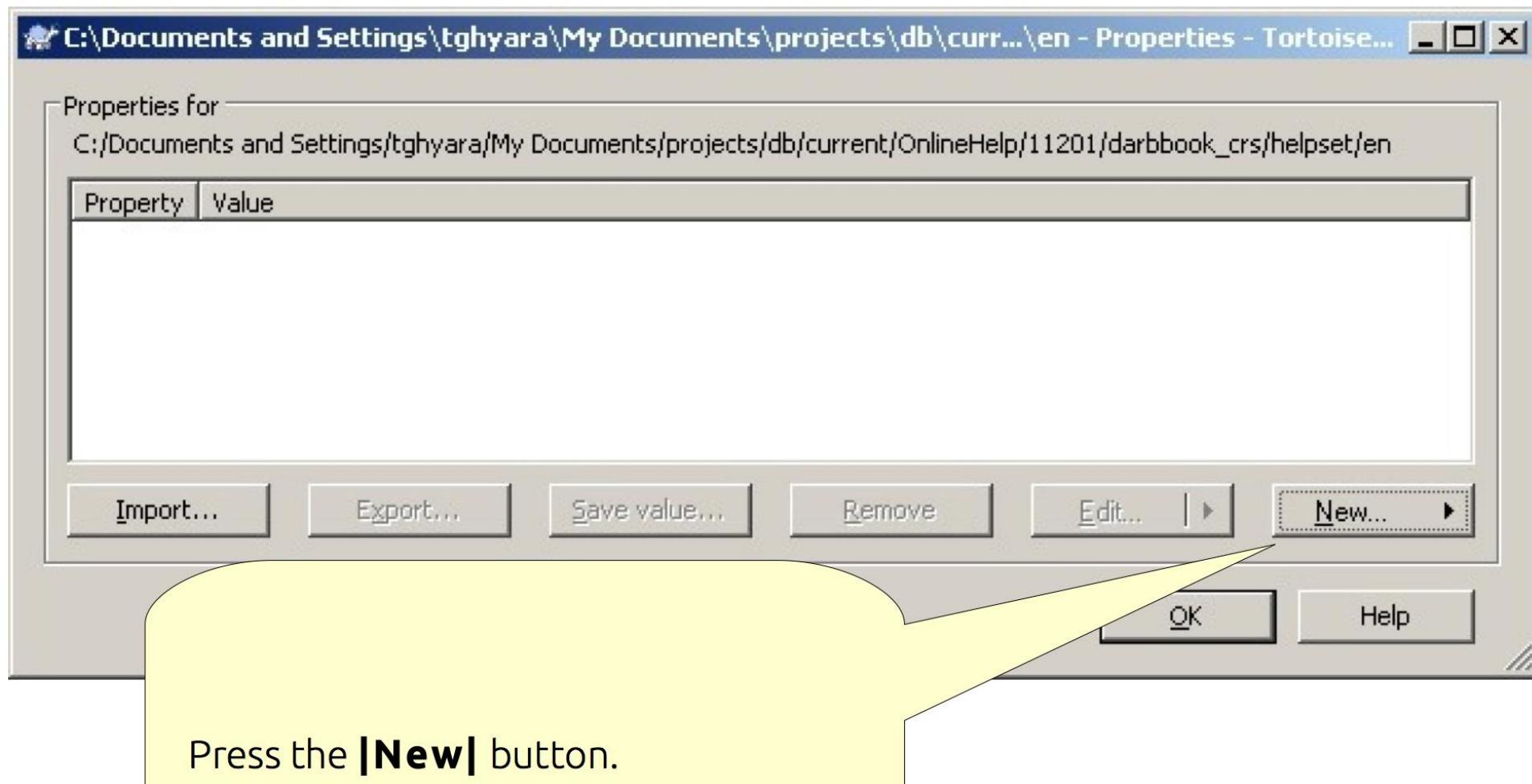
Including A Common Sub-project-2

- A web-site project stored at the repository URL http://svnserve/www_pages/ needs to access graphic files available in the repository URL <http://svnserve/corp/graphics/>
 - To resolve: set the svn:externals property for the www_pages folder as: <http://svnserve/corp/graphics/graphics>
- An application project stored at the repository URL <http://svnapps/gendoc/> needs to access templates from revision 103 of the repository <http://svnserve/corp/templates>
 - To resolve: set the svn:externals property for the gendoc folder as: -r 103 <http://svnserve/corp/templates/templates>

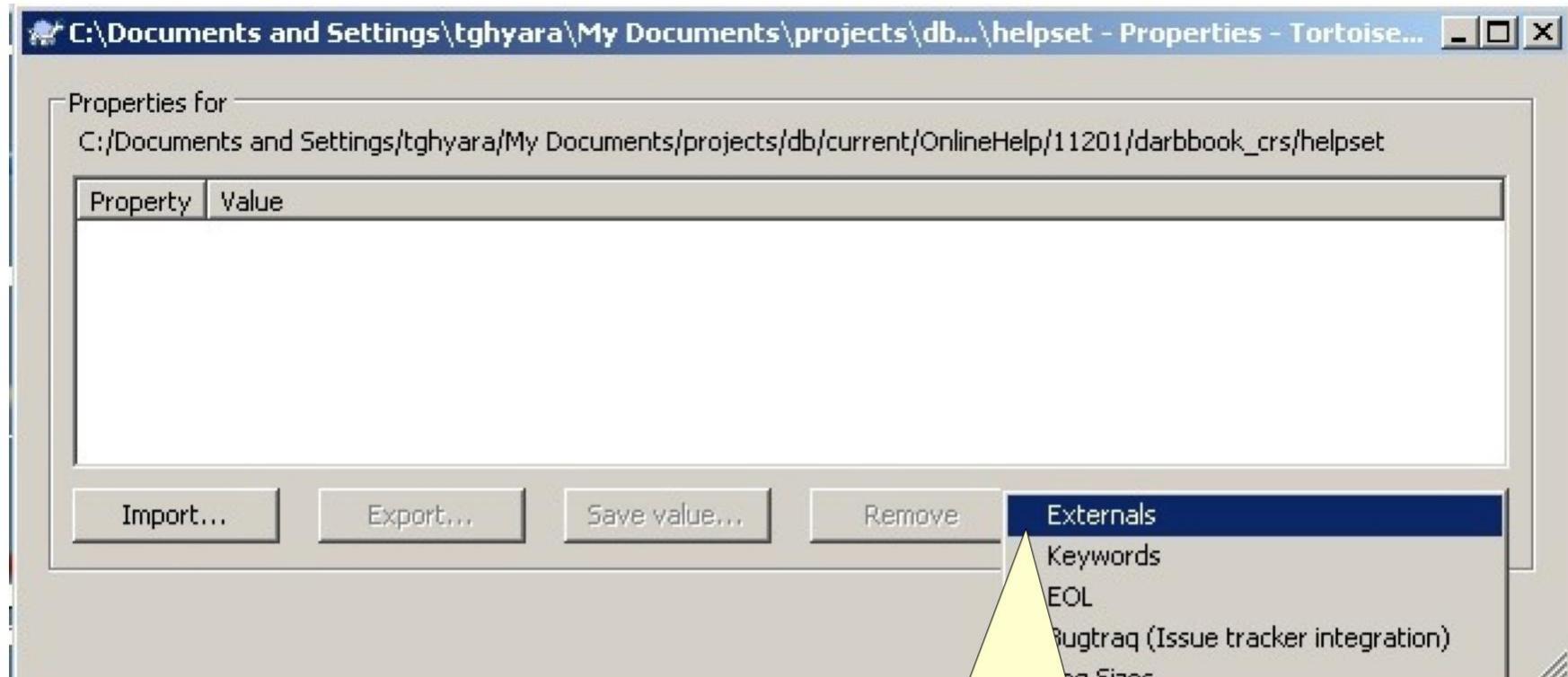
Setting svn:externals using TSVN-1



Setting svn:externals using TSVN-2

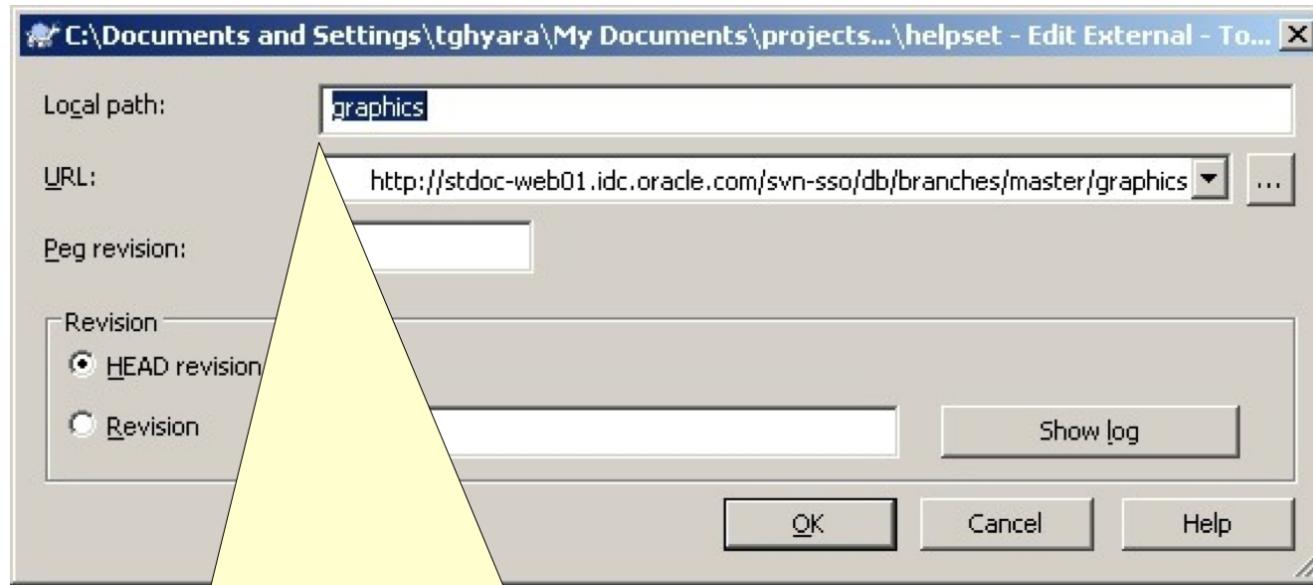


Setting svn:externals using TSVN-3



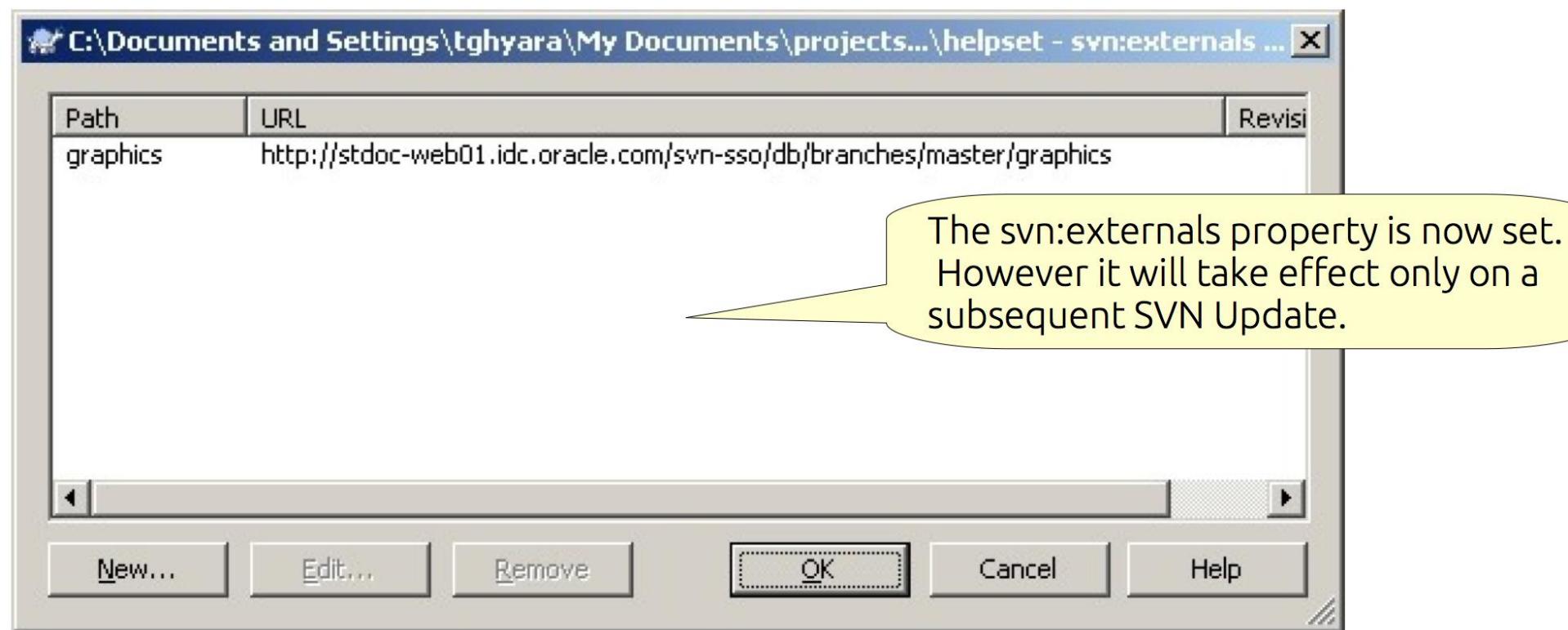
Choose the **Externals** option.

Setting svn:externals using TSVN-4



Type in the folder name to create. In this example, a folder called **graphics** will be created in the working copy. Its contents are updated based on the contents of the repository URL specified (**<http://stdoc-web01/.../master/graphics>**)

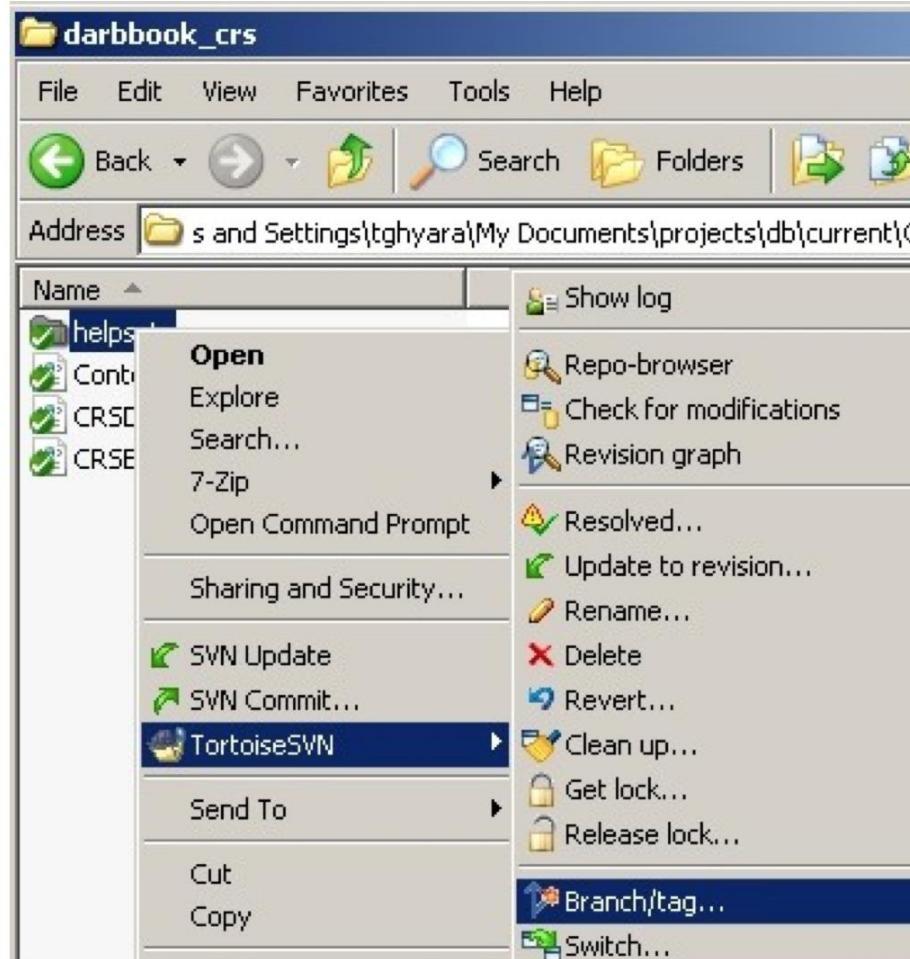
Setting svn:externals using TSVN-5



Tagging/Branching A Subversion Repository

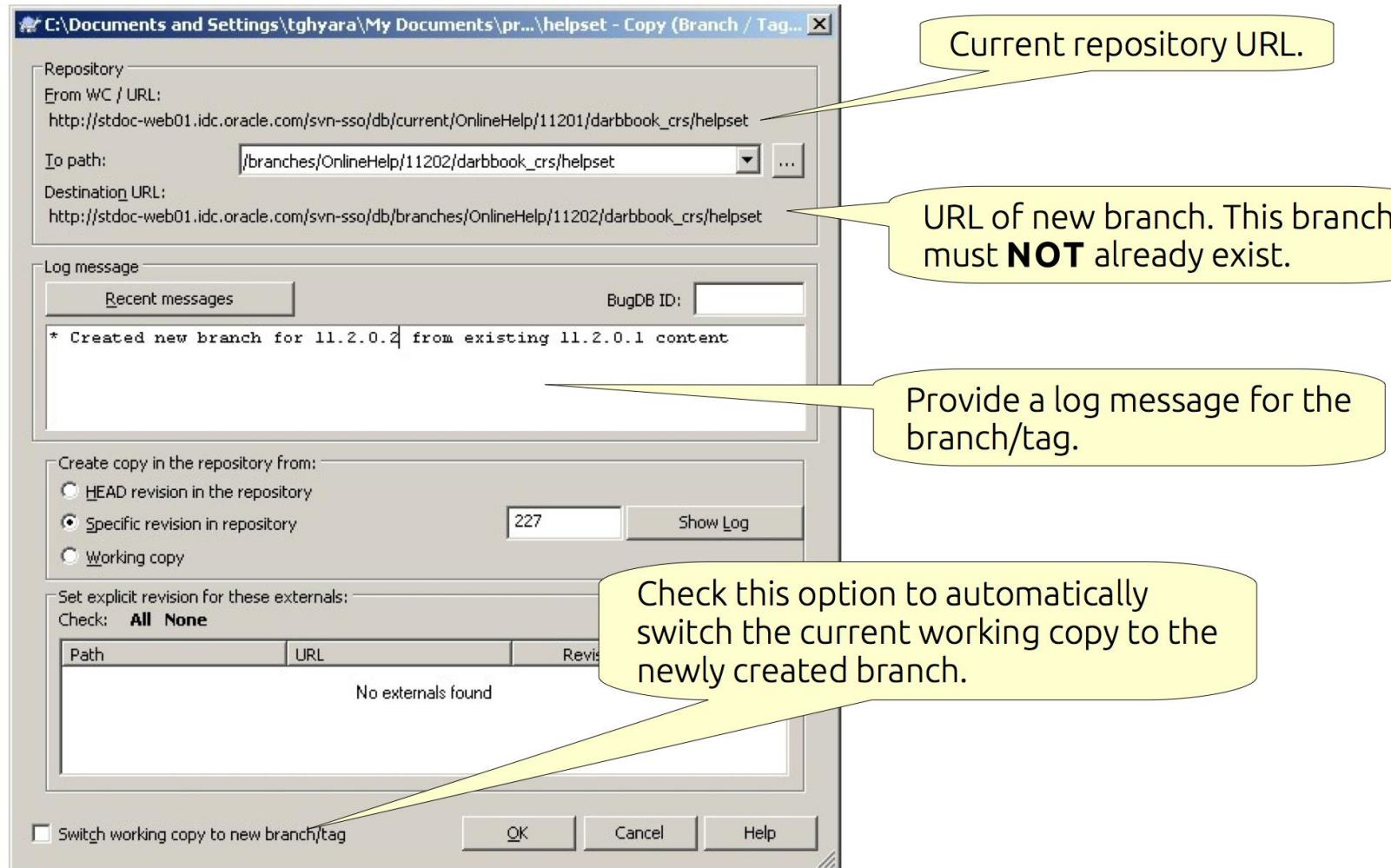
- Subversion repository root usually contains:
 - /trunk/
 - /branches/
 - /tags/
- Use the Subversion copy command to branch/tag the current or main branch
 - Copy to the /branches/ directory of a repository to create a branch
 - Copy to the /tags/ directory of a repository to create a tag
- Branched/tagged versions accessible
 - by checking out the repository with /tag/, or /branch/ as part of the URL
 - By using the Subversion switch command to switch the working copy to /from /trunk/ to /branches/.../ or /tags/.../

Tagging/Branching A Subversion Repository

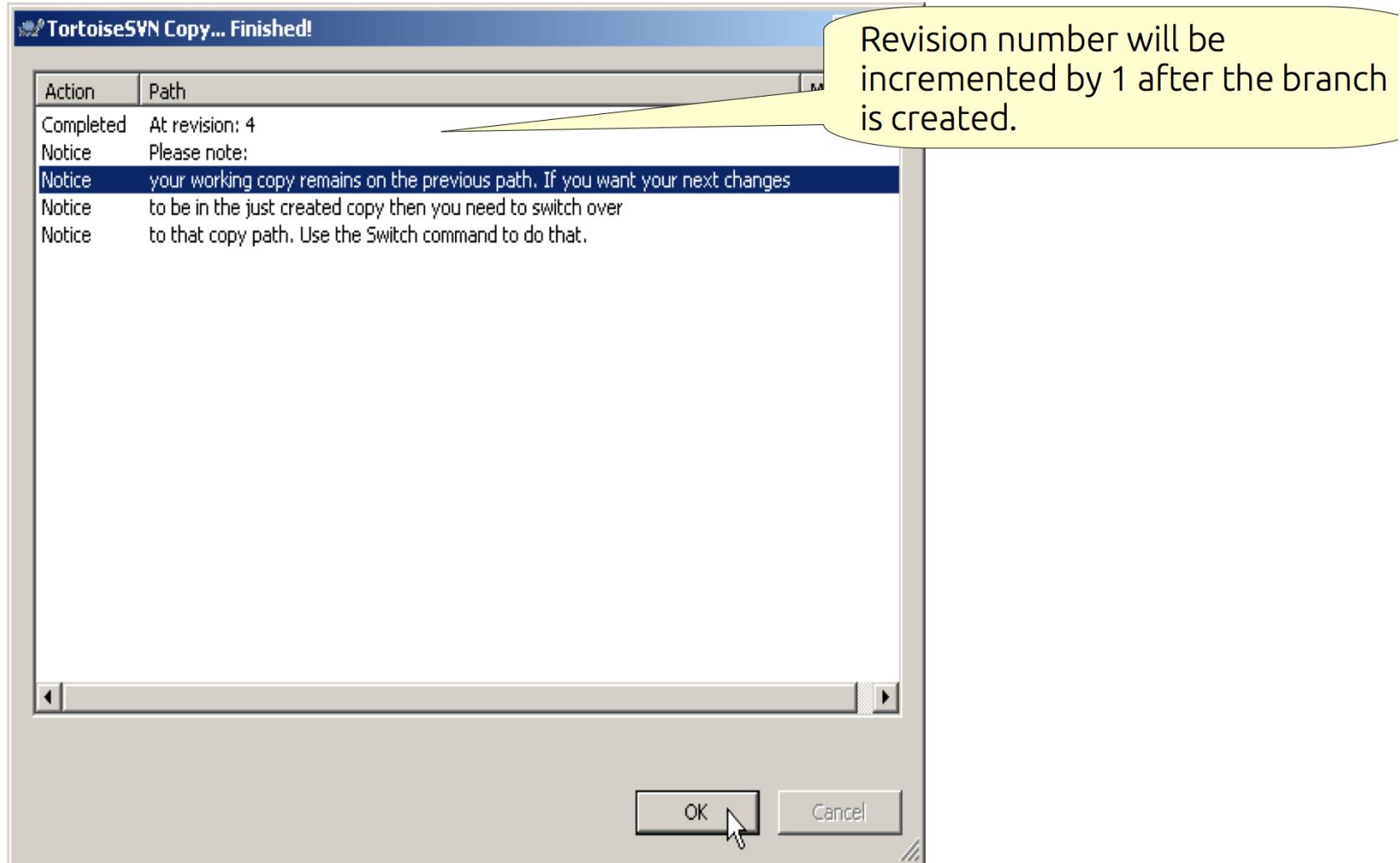


Choose the **Branch/tag** option from the TortoiseSVN menu after right-clicking the folder to be branched.

Tagging/Branching A Subversion Repository



Tagging/Branching A Subversion Repository



Conflict Handling

- Two types
 - File conflict
 - Tree conflict

File Conflict-1

- Alice modifies file from revision 32
 - Text file relnotes-10.2.sth, lines 10-16
 - Text file relnotes-10.1.sth, lines 34-40
 - Binary file releasenotes.fm
- Bob modifies file from revision 32
 - Text file relnotes-10.2.sth, lines 15-17
 - Text file relnotes-10.1.sth, lines 10-19, 20-27, 45-48
 - Binary file releasenotes.fm
- Alice commits changes resulting in revision 33
- Bob gets an error on committing. (Working copy for Bob is rev 32, but latest repository revision for these files is rev 33)
- Bob must therefore run SVN Update

File Conflict-2

- Bob runs SVN Update to update the working copy to r33
 - Alice's changes to relnotes-10.1.sth merge with Bob's changes successfully.
 - Alice's changes to relnotes-10.2.sth and releasenotes.fm conflict with Bob's changes.
- Subversion detects text file conflicts and creates
 - relnotes-10.2.sth, containing conflict markers)
 - relnotes-10.2.mine.sth (this is relnotes-10.2.sth with Bob's changes)
 - relnotes-10.2.r32.txt (the original file before any changes)
 - relnotes-10.2.r33.txt (this is relnotes-10.2.sth with Alice's changes)
 - Subversion detects binary file conflicts and creates
 - releasenotes.r32.fm (Original file before any changes)
 - releasenotes.r33.fm (this is releasenotes.fm after Alice's changes)
 - releasenotes.fm containing Bob's changes is not affected unlike text files. (No concept of .mine for binary files)

File Conflict-3

- To resolve the conflict:
 - Compare relnotes-10.2.r33.sth and relnotes-10.2.mine.sth for changes. Use a guideline to edit relnotes-10.2.sth suitably, removing conflict markers (lines containing <<<< and >>>>)
 - Compare releasenotes.r33.fm and releasenotes.fm (FrameMaker's File>Utilities>Compare Documents...) and fix releasenotes.fm
 - Choose SVN Resolve from the Tortoise SVN menu
 - relnotes-10.2.r32.sth, relnotes-10.2.r33.sth, relnotes-10.2.mine.sth, releasenotes.r33.fm, releasenotes.r32.fm will be automatically deleted on resolution
 - SVN Commit

Tree Conflicts-2

- Tree conflict
 - Different users work with the same set of files and directories, creating incompatible new tree structures
- Tree conflicts arise when the directory structure is changed by one or more users
 - One user deletes, the other user renames
 - One user deletes, the other user modifies
 - One user modifies, the other user renames
 - One user deletes, the other user copies
 - One user renames, the other user renames to something else
 - ...

Tree Conflicts-2

- Tree conflict resolution
 - Determine the cause
 - Right-click the conflicted directory, select svn edit conflicts
- To resolve:
 - Discard your changes and accept the other users directory changes
 - Alternately, communicate with the other user, and accept and commit your changes **after** arriving at a consensus. Do **NOT** do this without first communicating your intent with the user who caused the tree conflict.

Best Practices-1

- Commit should be at a directory level
 - AVOID commits on files. Stop thinking in terms of files!
- Commit from a parent folder that includes all folders affected by a move operation
 - AVOID committing individual folders affected by a move. This will mess up the repository for yourself and possibly other users.
- Release locks before svn rename/move/delete operations
- Treat file content changes and directory changes as mutually exclusive for a commit operation.
 - File content change => commit
 - Dir change (rename/move/delete) ==> commit
 - File content + Dirchange=>Not a good idea

Best Practices-2

- Commit after finishing a task
 - Adjust the commits to the content of your work, not to the work time (every midday, every evening, etc.)
- Communicate with each other after a conflict
- Close files in a working copy before running svn commit or svn update
 - **Not doing so can cause possible data loss!**

Best Practices-3

- AVOID Committing open files
- AVOID Updating a working copy containing opened files
- AVOID Checkout at root level
 - No need of branches, tags, and trunk in working copy
- AVOID Commits on or within tags/ folder
- AVOID Locks in different working copies for the same repository location
 - Eg: Working copy on a home PC as well as on the office PC.
- AVOID Empty commit messages
- AVOID Commits which include directory modifications as well as file modifications