How to integrate `<oXygen/>` XML compare and merge tools

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Overview

- XML documents comparison
- Integrate <oXygen/> XML Diff as external tool
- Merging directories or a set of files
- Using the merge support form a plugin
XML Comparison

• More and more XML-based documents are used for technical documentation
• Documents stored on versioning systems or CSMs
• Contributors can work in the same time on the same files
• Integrating the modifications can be a challenge
Comparison Challenges

- Most built-in applications are using text comparison
- It is important to use an XML comparison tool
- Compare against a base to determine the changes
Three-way Compare

Local Modifications
Two-way compare

Base

Remote modifications
Two-way compare

Both Local and Remote Modifications
Three-way compare
Integrate <oXygen/> XML Diff

Diff and Merge Tools

Oxygen provides tools to visualize and merge the changes

- Diff Directories (2-Way)
- Diff Files (2-Way and 3-Way)
- Compare Directories Against a Base (3-Way)
- Automatic file merge tool (3-Way)
Integrating Diff Files Tool

Diff Files tool can be integrated as an external application

Command line parameters:

diffFiles.bat [-ext] [leftFile] [rightFile] [ancestorFile] [mergeOutputFile] [-leftRO=true | false] [-rightRO=true | false]

-ext
  - instructs the application that it is used as an external comparison tool for another application

leftFile
  - the file that will be displayed on the left side

rightFile
  - the file that will be displayed on the right side

ancestorFile
  - the base (ancestor) file

mergeOutputFile
  - the merge output/result file. Will be displayed in the left side and its initial content will be the left file content

-leftRO
  - enables (true) or disables (false) editing of the left-side file

-rightRO
  - enables (true) or disables (false) editing of the right-side file
SourceTree Compare

SourceTree Compare View

Oxygen XML Diff

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Integrate with SourceTree

Configure the External Diff tool in SourceTree Options dialog, in the Diff tab.

"Diff Command"
[Oxygen install dir]/diffFiles.exe, and for "Arguments" -ext $REMOTE $LOCAL $LOCAL

"Merge Tool"
[Oxygen install dir]/diffFiles.exe, and for the "Arguments" -ext $LOCAL $REMOTE $BASE $MERGED
Integrate with Command Line Git

To configure git to use a <oXygen/> Diff Files for comparison you need to add the following lines in the ".gitconfig" file:

```plaintext
[diff]
  tool = oxygendiff

[merge]
  tool = oxygendiff

[difftool "oxygendiff"]
  cmd = '[Oxygen install dir]/diffFiles.exe' -ext $REMOTE $LOCAL $LOCAL

[mergetool "oxygendiff"]
  cmd = '[Oxygen install dir]/diffFiles.exe' -ext $LOCAL $REMOTE $BASE $MERGED
  trustExitCode = true

[difftool]
  prompt = false
```

Run Oxygen Diff Files from command line using: "git difftool file.xml".

For MacOSX you need to specify the path to the "diffFilesMac.sh", for Linux "diffFiles.sh"
Integrate with Command Line Git

Or you can run the following commands from the command line:

```bash
# Configure Git to use Oxygen as the diff tool
git config --global diff.tool oxygendiff

# Define the command for the diff tool
# Replace 
# $REMOTE $LOCAL $LOCAL' with the actual path
# to the Oxygen diff tool
# in your system installation directory

git config --global difftool.oxygendiff.cmd '[Oxygen install dir]/diffFiles.exe -ext $REMOTE $LOCAL $LOCAL'

# Configure Git to use Oxygen as the merge tool

git config --global merge.tool oxygendiff

git config --global mergetool.oxygendiff.cmd '[Oxygen install dir]/diffFiles.exe -ext $LOCAL $REMOTE $BASE $MERGED'

git config --global mergetool.oxygendiff.trustExitCode true
```
Compare Dirs Against a Base

- Identify and merge changes between multiple modifications of the same directory structure
- Helpful for teams that have multiple authors contributing documents to the same directory system
Compare Dirs Against a Base

Bob
- Adds topic about roses.

Me
- Adds topic about narcissus.

Base
- flowers.ditamap
Compare Dirs Against a Base
Compare Dirs Against a Base

Offers information about conflicts and changes, and includes actions to easily merge, accept, overwrite, or ignore changes.
Integrate Merge Tool from Plugins
API to start 3-Way Directory Comparison Merge Tool

```
List<MergedFileState> DiffAndMergeTools.openMergeApplication(
    baseDir,
    personalModifiedFilesDir,
    externalModifiedFilesDir,
    mergeOptions)
```

- **baseDir** – The directory containing initial, unaltered files.
- **personalModifiedFilesDir** – The directory containing the files modified by you. These files are modified during the merging.
- **externalModifiedFilesDir** – The directory containing the files modified by others.
- **mergeOptions** – The options used in the merge operation. The keys that can be used in this map are found in MergeFilesOptionsConstants.

Obtain the list with the modified files and their status (deleted, added, modified).
Merge Options

- Constants defined in `MergeFilesOptionsConstants`:
  - `FILTER_MODES_KEY` - default state of the filter buttons
  - `MERGE_DIALOG_TITLE` - title of the merge dialog
  - `VIRTUAL_PATH_FOR_PERSONAL_MODIFIED_FILES_DIRECTORY`
    - It can be useful if you plan to do the merging in a temporary directory
    - The dialog can use this option to hide the real temporary directory path from the user
Merge Dialog Use Cases

- Integrate changes on a CMS
- Integrate changes on your local system
- Preview some modifications
Automatic Merge in Web Author

Allows the user to automatically merge his changes with the changes made by other people

Automatic Merge File Content

API to automatically merge files content:

MergeResult XMLUtilAccess.threeWayAutoMerge(ancestor, left, right, conflictResMeth)

**ancestor** – The original file string which has been modified into left and right.

**left** – The left version of the file string, the one with "our" changes.

**right** – The right version of the file string, the one with "others" changes.

**conflictResMeth** – The conflict resolution method to use.

Returns a merged file string where conflicts are resolved by using the left version of the file.
Delta XML Plugin for <oXygen/>

https://www.deltaxml.com/products/plugins/oxygen-plugin
Thank you!

Questions?

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