Oxygen XML Diff 4.0

Contents

Chapter

1

Introduction

Welcome to the Oxygen XML Diff 4.0 User Manual.

Oxygen XML Diff is a cross-platform application designed for comparing and finding the differences between two XML files or two sets of XML files. It offers a complete diff and merge solution with six different diff algorithms and multiple levels of comparison.

This user guide is focused mainly at describing features, functionality and application interface to help you get started in no time.

Chapter

2

Installation

Topics:

This section explains platform requirements and installation procedures. It also provides instructions on how to obtain and register a license key, how to perform upgrades and uninstall the application.

If you need help at any point during these procedures please send email to support@oxygenxml.com

Installation Requirements

This section contains details about the platform and environment requirements necessary for installing and running the application.

Platform Requirements

The run-time requirements of the application are:

- CPU (processor): minimum - Intel Pentium III™/AMD Athlon™ class processor, 500 *Mhz*; recommended - Dual Core class processor.
- Computer memory: minimum - 512 MB of RAM (1 GB on Windows Vista and Windows 7); recommended - 512 MB of RAM (2 GB on Windows Vista and Windows 7).
- Hard disk space: minimum - 100 MB free disk space; recommended - 200 MB free disk space.

Operating System

Windows	Windows XP, Windows Vista, Windows 7, Windows 2003, Windows Server 2008.
Mac OS	Mac OS X version 10.5 64-bit or later.
Unix/Linux	Any Unix/Linux distribution with an available Java SE Runtime Environment version 1.6.0 or later from Oracle (formerly from Sun).

Environment Requirements

This section specifies the Java platform requirements and other tools that may be needed for installing the application.

Tools

Installation packages are supplied in compressed archives. Ensure you have installed a suitable archive extraction utility with which to extract the archive. The MD5 sum is available on *the Download page* for every archive. You should check the MD5 sum of the downloaded archive with a MD5 checking tool available on your platform.

Java Virtual Machine Prerequisites

Prior to installation ensure that your Operating System environment complies with the following:

- Oxygen XML Diff supports only official and stable Java virtual machines with the version number 1.6.0 or later from Oracle, formerly Sun Microsystems (available at *http://www.java.com/en/download/manual.jsp*) and from Apple Computer. The Java Virtual Machine from Apple is pre-installed on Mac OS X computers. For Mac OS X, Java Virtual Machine updates are available at the Apple website. Oxygen XML Diff may work very well with JVM implementations from other vendors but the eventual incompatibilities will not be solved in further Oxygen XML Diff releases. Oxygen XML Diff *does not work with the GNU libgcj Java virtual machine*.
- The PATH environment variable is set to the most current Java Virtual Machine installation.
- References to older Java Virtual Machine installations are removed from the PATH.

Installation Instructions

Before proceeding with the following instructions, please ensure that your system complies with the prerequisites detailed in the installation requirements.

👉 **Note:**

The following instructions assume that a Java Runtime Environment *JRE*) is installed. If you have downloaded an installation package that contains the *JRE*, please note that the package will automatically install a JRE before execution of the application but this JRE will be used on your computer only for running Oxygen XML Diff, it will be invisible to other applications.

👉 **Note:**

The installation kits and the executable files packaged inside the installation kits were checked before publication with an antivirus program to make sure they are not infected with viruses, trojan horses or other malicious software.

Windows Installation

Windows installation procedure.

To install the application on Windows:

1. Download the `oxygenXMLDiff.exe` installation kit and run it.
2. Follow the instructions presented in the installation program.

   The user preferences are stored in the subfolder `com.oxygenxml.diff` of the folder that is the value of the `APPDATA` Windows variable for the user that starts the application.

   👉 **Note:**

   In order to specify another Java virtual machine to be used by Oxygen XML Diff you have to set the home folder of the desired JVM in the Windows variable `JAVA_HOME` or in the Windows variable `JDK_HOME`. If `JAVA_HOME` and `JDK_HOME` are not set the application launcher will try to detect a JVM installed in a standard location on the computer and use it for running the application. If you installed the kit which includes a Java virtual machine you have to rename of remove the `jre` subfolder of the install folder in order for the variable `JAVA_HOME` or `JDK_HOME` to take effect.

   👉 **Note:**

   Copy to clipboard the license key you have received by email and paste it in the application license dialog.

   👉 **Note:**

   If you have difficulties installing the product please use the zip archive distribution instead (oxygenXMLDiff.zip). Just unzip it in a folder where you have write permissions and use the product launchers.

Mac OS X Installation

Mac OS X installation procedure.

To install the application on Mac OS X:

1. Create a folder called `oxygenXMLDiff` on your local disk.
2. Within the `oxygenXMLDiff` folder, create child folder named in accordance with the version number of the application.

   The folder structure looks as follows: /../oxygenXMLDiff/4.0/

3. Download the Mac OS X Installation package (`oxygenXMLDiff.tar.gz`) into this folder.

4. Extract the archive into the same folder.

5. Execute the file named `diffFiles or diffDirs`

👉 **Note:**

Oxygen XML Diff uses the first JVM from the list of preferred JVM versions set on your Mac computer that has the version number not less than 1.6.0. To change the version of the Java virtual machine that runs the application you must move your desired JVM version up in the preferred list by dragging it with the mouse on the first position in the list of JVMs available from Applications -> Utilities -> Java -> Java Preferences.

👉 **Note:**

Runs perfectly on Intel Core Duo Mac systems.

👉 **Note:**

The compressed file should be recognized by StuffIt Expander and should automatically be expanded after downloading. If it is not expanded, you can expand it manually using StuffIt Expander 6.0 or later.

👉 **Note:**

Copy to clipboard the license key you have received by email and paste it in the application license dialog.

👉 **Note:**

With some fonts the cursor will behave unpredictably. It is recommended to use a fixed-size font, such as Monaco. More details can be found *here*.

Linux Installation

Linux installation procedure.

To install the application on Linux:

1. Download the `oxygenXMLDiff-32bit.sh or oxygenXMLDiff-64bit.sh` installation kit and run it.

2. Follow the instructions presented in the installation program.

👉 **Note:**

In order to specify another Java virtual machine to be used by Oxygen XML Diff you have to set the home folder of the desired JVM in the environment variable `JAVA_HOME` or in the environment variable `JDK_HOME`. If `JAVA_HOME` and `JDK_HOME` are not set the application launcher will try to detect a JVM installed in a standard location on the computer and use it to run the application.

All Platforms Installation

All Platforms kit installation procedure.

1. Create a folder called `diffFiles` on your local disk.

2. Within the `diffFiles` folder, create child folder named in accordance with the application version number. The directory structure looks as follows: /../diffFiles/4.0/

3. Download the All Platforms Installation package (`oxygenXMLDiff.tar.gz`) to this folder.

4. Extract the archive to the same folder.

5. Run from a command line the script `diffFiles.bat or diffDirs.bat` on Windows, `diffFilesMac.sh or diffDirsMac.sh` on Mac OS X, `diffFiles.sh or diffDirs.sh` on Unix / Linux.

👉 **Note:**

To change the version of the Java virtual machine that runs the application you have to specify the full path to the Java executable of the desired JVM version in the Java command at the end of the script file, for example:

```
"C:\Program Files\Java\jre1.6.0\bin\java" -Xmx256m
-Dsun.java2d.noddraw=true ...
```

on Windows,

```
/System/Library/Frameworks/JavaVM.framework/Versions/1.6.0/Home/bin/java
 "-Xdock:name=DiffFiles" ...
```

on Mac OS X.

👉 **Note:**

You must have installed a Java virtual machine 1.6.0 or later.

👉 **Note:**

Copy to clipboard the license key you have received by email and paste it in the application license dialog.

Unix / Linux Server Configuration

Unix / Linux Server configuration procedure.

To install the application on a Unix / Linux server:

1. Install the application on the server, making sure the `diffFiles.sh` and `diffDirs.sh` script is executable and the installation directory is in the PATH of the users that need to use the editor.
2. Create a file called `diffFiles.vmoptions` and `diffDirs.vmoptions` in the Oxygen XML Diff install folder where the diffFiles4.0 file is located.

   File's content must be: `-Xmx256m -Dcom.oxygenxml.MultipleInstances=true`

   The "-Xmx" value represents the maximum memory allocated for each application instance. Please make sure you tune it such that the multiple application instances will not use all the available physical memory.
3. Make sure the X server processes located on the workstations allow connections from the server host. For this use the **xhost** command.
4. Telnet (or ssh) on the server host.
5. Start an xterm process, with **display** parameter set on the current workstation. Ex: `xterm -display workstationip:0.0`
6. Start the application by typing `diffFiles.sh or diffDirs.sh`

Unattended Installation

Unattended installation is possible only on Windows and Linux by running the installer executable from command line and passing the -q parameter. The installer executable is called `oxygenXMLDiff.exe` on Windows and `oxygenXMLDiff.sh` on Linux

In unattended mode the installer does not overwrite files with the same name if a previous version of the application is installed in the same folder. The -overwrite parameter added after -q parameter forces the overwriting of these files.

If the installer is executed in silent (unattended) mode and -console parameter is passed as a second parameter after -q parameter, a console will be allocated on Windows that displays the output of the installer. The command for running the installer in this case is:

```
start /wait oxygenXMLDiff.exe -q -console
```

Custom Settings in Unattended Installation

By default an unattended installation applies the default settings of the installer. If you want to install the application on a large number of computers but you need to change the default values of some settings (like the install folder on disk, whether a desktop icon or a quick launch shortcut is created, the file associations created in the operating system, the name of the program group on the Start menu, etc.) then you should use a special settings file which specifies the new values for these settings. To generate the settings file you have to run the installer in normal attended mode once on a test computer and specify the exact options that you want for the unattended installation. When the installation is completed a file called `response.varfile` and containing your selected options is created in the `.install4j` subfolder of the installation folder, by default C:\Program Files\Oxygen XML Diff 4.0\.install4j on Windows. This is a one time process. After that for applying these options on all the computers where an unattended installation is performed you have to specify this file in the command line, for example copy the file in the same location as the installer program and use the command:

- on Windows:

```
oxygenXMLDiff.exe -q -varfile response.varfile
```

- on Linux:

```
oxygenXMLDiff.sh -q -varfile response.varfile
```

Privacy Options

The following parameters control the privacy options:

Table 1: Privacy Options Parameters

Parameter name	Description	Values
autoVersionChecking	Automatic version checking.	`true` / `false`. Default setting is `true`.
reportProblem	Allows you to report a problem encountered while using the application.	`true` / `false`. Default setting is `true`.
usageDataCollector	When set to `true`, the user can choose whether the application will send anonymous information about how the product is used.	`true` / `false`. Default setting is `true`.

They can be set either in the `response.varfile` configuration file, or directly in the command line, like in the following example:

- on Windows:

```
oxygenXMLDiff.exe -q -VautoVersionChecking=false
-VreportProblem=false -VusageDataCollector=false
```

- on Linux:

```
oxygenXMLDiff.sh -q -VautoVersionChecking=false
-VreportProblem=false -VusageDataCollector=false
```

Setting a Parameter in the Launcher Configuration File / Startup Script

On the Windows platform if you start the application by double-clicking on the Start menu shortcut/Desktop shortcut in order to set a startup parameter you have to add a new line with the parameter to the file `diffFiles.vmoptions` located in the installation directory together with the launcher file called `diffFiles.exe`. If the file `diffFiles.vmoptions` does not exist yet in the folder of the launcher file you have to create it there. For example

for setting the maximum amount of Java memory to 600 MB the content of the file `diffFiles.vmoptions` must be:

```
-Xmx600m
```

👉 **Note:** On Windows Vista/7 you will first have to copy the `diffFiles.vmoptions` file to a folder with write access (like your Desktop), modify it there with a text editing application (like *Notepad*) and then copy it back to the installation folder, replacing the original file.

If you start the application with the script `diffFiles.bat` you have to add or modify the parameter to the java command at the end of the script. For example for setting the maximum amount of Java memory to 600 MB the java command should start with:

```
java -Xmx600m -Dsun.java2d.noddraw=true ...
```

On the Mac OS X platform to add or modify a startup parameter you have to Ctrl-click on the Oxygen XML Diff application icon in Finder, in the pop-up menu select *Show Package Contents*, then in the *Contents* directory you edit the file `Info.plist`: in the key *VMOptions* you modify the parameter if it already exists in that key or you add it after the model of the existing parameters inside that key.

On the Linux platform you have to create a file called `diffFiles.vmoptions` if it does not exist already and specify the parameter exactly as in the case of the `.vmoptions` file on the Windows platform.

If you use the *All platforms* distribution you have to add or modify the startup parameter that you want to set in the Java command line at the end of the startup script `diffFiles.bat` or `diffDirs.bat` on Windows, `diffFilesMac.sh` or `diffDirsMac.sh` on Mac OS X and `diffFiles.sh` or `diffDirs.sh` on Linux. All these files are located in the installation directory. For example to set the maximum amount of Java memory to 600 MB on Windows the -Xmx parameter must be modified in the java command line at the end of `diffFiles.bat` like this:

```
java -Xmx600m -Dsun.java2d.noddraw=true ...
```

on Mac OS X the java command at the end of `diffFilesMac.sh` should look like:

```
java "-Xdock:name=DiffFiles"\
 -Dcom.oxygenxml.editor.plugins.dir="$/OXYGEN_XML_DIFF_HOME/plugins"\
 -Xmx600m\
 ...
```

and on Linux the Java command at the end of `diffFiles.sh` should look like:

```
java -Xmx600m\
 "-Dcom.oxygenxml.editor.plugins.dir=$OXYGEN_XML_DIFF_HOME/plugins"\
```

Starting the Application

This section specifies the steps for starting the application.

Starting the Application on Windows

Start the application launcher.

Use one of the following two launchers:

- `diffFiles.exe` - started from the shortcut created by the installer on the **Start** menu.
- `diffFiles.bat` - located in the install folder and started from command line.

Starting the Application on Mac OS X

Start the application's launcher.

Use one of the following two methods:

- The shortcut `diffFiles` created on **Desktop** by the installer.
- The command

  ```
  sh diffFilesMac.sh
  ```

  executed from command line. This launcher file is located in the install folder.

: Two or more instances can be started on the same computer with the following command that should be executed for any new instance:

```
open -n DiffFiles.app
```

Starting the Application on Linux

Start the application's launcher.

Use one of the following two methods:

- The shortcut `diffFiles` created on **Desktop** by the installer.
- The command

  ```
  sh diffFiles.sh
  ```

  executed from command line. This launcher file is located in the install folder.

Starting the Application with the All Platforms Kit

Start the application's launcher.

Use the following command:

- On Windows:

  ```
  diffFiles.bat
  ```

- On Linux:

  ```
  sh diffFiles.sh
  ```

- On Mac OS X:

  ```
  sh diffFilesMac.sh
  ```

Obtaining and Registering a License Key

The Oxygen XML Diff is not free software and requires a license in order to enable the application.

For demonstration and evaluation purposes a time limited license is available upon request from the *Oxygen* web site. This license is supplied at no cost for a period of 30 days from date of issue. During this period the Oxygen XML Diff is fully functional enabling you to test all aspects of the application. Thereafter, the application is disabled and a permanent license must be purchased in order to use the application. For special circumstances, if a trial period of greater than 30 days is required, please contact support@oxygenxml.com . All licenses are obtained from the *Oxygen XML Diff web site* .

For definitions and legal details of the license types available for Oxygen XML Diff you should consult the End User License Agreement received with the license key and available also on the Oxygen XML Diff website at *http://www.oxygenxml.com/eula_diff.html*

Named User License Registration

1. Save a backup copy of the message containing the new license key.
2. Start the application.
3. Copy to the clipboard the license text as explained in the message.
4. If this is a new install of the application then it will display automatically the registration dialog when it is started. In the case you already used the application and obtained a new license, use the menu option Help / Register
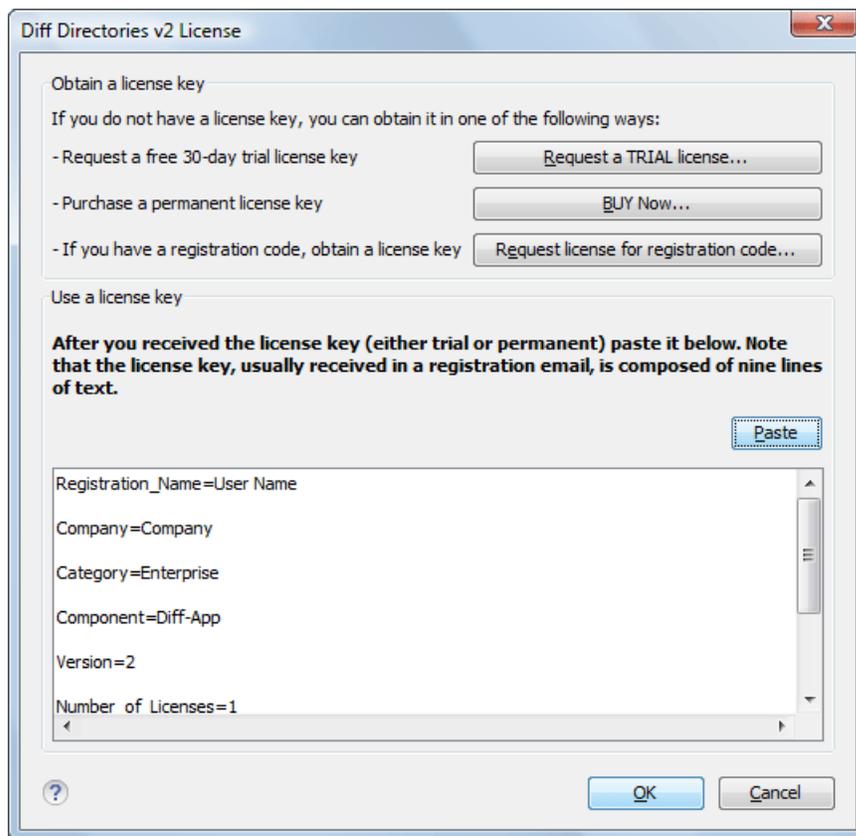
Figure 1: Registration Dialog

5. Paste the license text in the registration dialog.
6. Press the OK button.

Named User License Registration with Text File

1. Save the license key in a file named `licensekey.txt`.

2. Copy the file in the *lib* subfolder of the install folder.
3. Start Oxygen XML Diff .

License Registration with an Activation Code

If you have only an activation code and you want to register the associated license key you must request this license key by filling the registration code and other details associated with your license in a request form on the Oxygen XML Diff website. The button **Request license for registration code** in the registration dialog available from menu **Help** > **Register** > **Register** opens this request form in the default Web browser on your computer.

Upgrading the Oxygen XML Diff Application

From time to time, upgrade and patch versions of are released to provide enhancements that rectify problems, improve functionality and the general efficiency of the application.

Any personal configuration settings and customizations are preserved by installing an upgrade or a patch.

Upgrading the Standalone Application

Upgrading to a new version might require a new license key. To check if your license key is compatible with the new version, select **Help** > **Check for New Version** . Note that the application needs an Internet connection to check the license compatibility.

👉 **Note:** If there is a previous version of Oxygen XML Diff already installed on your computer, it can coexist with the new one, which means you don't have to uninstall it. The user preferences are stored in a different directory. They will not be removed and will be imported automatically in the new version at the first application launch.

1. Download the install kit of the new version.
2. Create a new folder under `/../oxygenXMLDiff` e. g. /../oxygenXMLDiff/4.0
3. Extract the content of the install kit into the new folder.
4. If you have defined Oxygen XML Diff in the system PATH, modify it to point to the new installation folder.
5. Start Oxygen XML Diff
   This will test that the application can start and that your license is recognized by the upgrade installation.

Checking for New Versions

Oxygen XML Diff offers *the option of checking for new versions* at the *http://www.oxygenxml.com/diff* site when the application is started. If this option is enabled a message dialog will notify the user when new versions are released.

You can check for new versions manually at any time by going to menu **Help** > **Check for New Versions**

Uninstalling the Application

This section contains uninstallation procedures.

Uninstalling the Standalone Application

⚠ **Caution:** The following procedure will remove Oxygen XML Diff from your system. **Please ensure that all valuable data stored in the install folder is saved to another location prior to performing this procedure.**

1. Backup all valuable data from the Oxygen XML Diff installation folder.
2. Remove the application.

   - On Windows use the appropriate uninstaller shortcut provided with your OS.
   - On Mac OS X and Unix manually delete the installation folder and all its contents.

3. If you want to remove also the user preferences that were configured in the **Preferences** dialog you must remove the folder `%APPDATA%\com.oxygenxml.diff` on Windows (usually %APPDATA% has the value [user-home-dir]\Application Data) / the subfolder `.com.oxygenxml.diff` of the user home folder on Linux / the subfolder `Library/Preferences/com.oxygenxml.diff` of the user home folder on Mac OS X.

Unattended Uninstall

The unattended uninstall procedure is available only on Windows and Linux.

Run the uninstaller executable from command line with the -q parameter.

The uninstaller executable is called `uninstall.exe` on Windows and `uninstall` on Linux and is located in the application's install folder.

Performance Problems

This section contains the solutions for some common problems that may appear when running the application.

Display Problems on Linux/Solaris

Display problems like screen freeze or momentary menu pop-ups during mouse movements over screen on Linux or Solaris can be solved by *adding the startup parameter* -Dsun.java2d.pmoffscreen=false.

Chapter

3

Comparing and Merging Documents

In large teams composed either of developers or technical writers, the usage of a shared repository for the source or document files is a must. Often many authors are changing the same file at the same time.

Finding what has been modified in your files and folders can be hard. If your data is changing, you can benefit from accurate identification and processing of changes in your files and folders with Oxygen XML Diff's features for comparing files and directories. These are powerful and easy to use tools that will do the job fast and thoroughly. With the new possibilities of differencing and merging, it is now easy to manage multiple changes.

Oxygen XML Diff provides a simple means of performing file and folder comparisons. You can see the differences in your files and folders and also you can merge the changes.

There are two levels on which the comparison can be done, namely comparing directories or comparing individual files. These two operations are available from the Tools menu.

Also the comparison tool can be started using command line arguments. In the installation folder there are 2 executable shells (`diffFiles.bat` and `diffDirs.bat` on Windows, `diffFiles.sh` and `diffDirs.sh` on Unix/Linux, `diffFilesMac.sh` and `diffDirsMac.sh` on Mac OS X). You can give one or two command line arguments to each of these shells.

For example, to start the comparison between 2 directories on Windows use:

```
diffDirs.bat "c:\Program Files" "c:\ant"
```

Note that if there are spaces in the path names, the paths need to be surrounded by quotes. Also one argument can be missing in which case the second directory will be chosen manually by the user.

The same goes for the files diff utility as well.

If you run the diff tool from the command line (`diffFiles.exe` or `diffFiles.bat` on Windows, `diffFiles.sh` on Linux, `diffFilesMac.sh` on Mac OS X), you must specify one or two parameters, because Diff Files perform only two-way comparing.

Directories Comparison

The directories comparison result is presented as a tree of files and directories. The directories that contain different files are expanded automatically, so you can focus directly on the differences. You can merge the directories contents using the copy actions. A double click or an Enter key on a line with a pair of files starts *comparing the file content* of the two files from that line in the **Compare Files** window. Please note that the content is compared only in case of known file types, that is the files associated with the built-in editors and the file types associated with a built-in editor when the user was prompted to specify such an association (when opening for the first time a file of an unknown type).
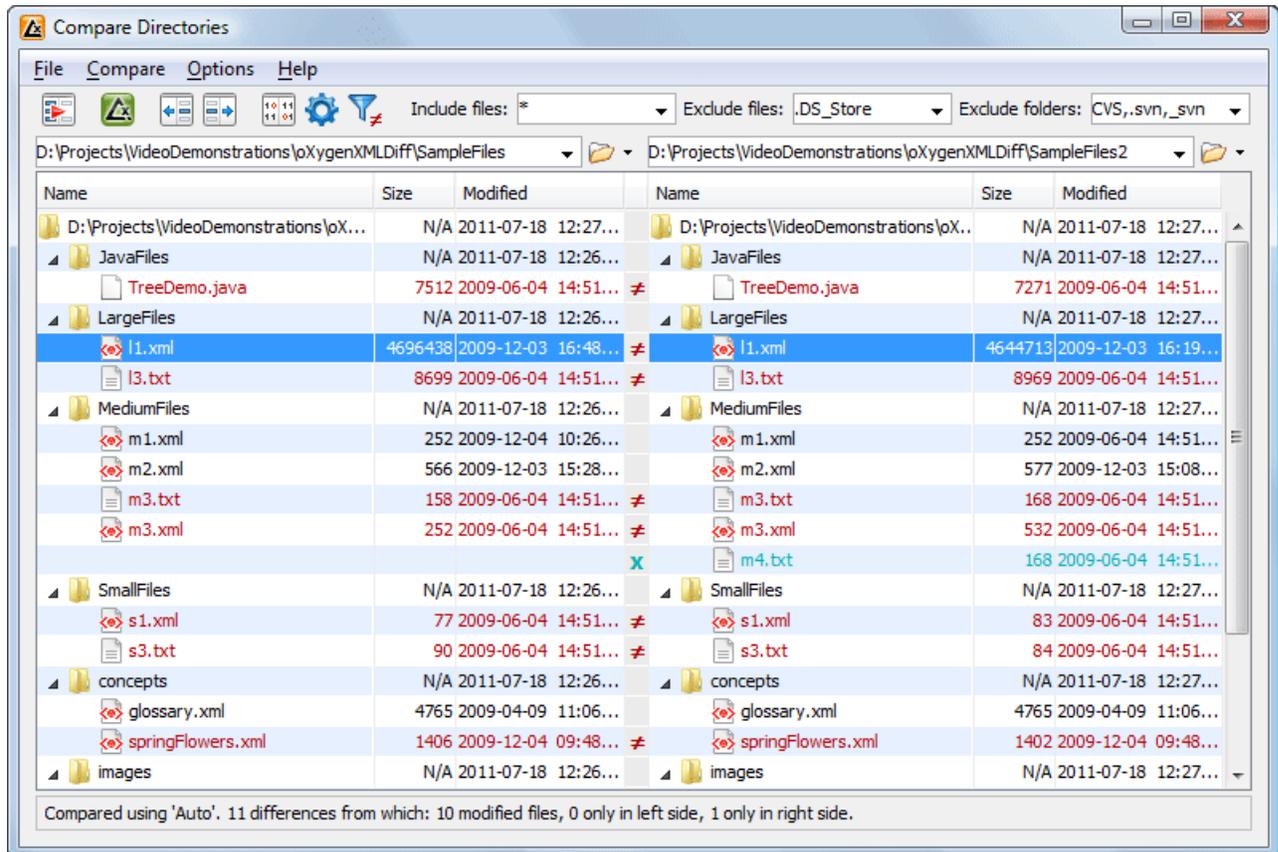
Figure 2: The Compare Directories Window

Directories Comparison User Interface

This section explains the user interface of the **Directories Comparison** window.

Compare Menu

This menu contains the following action:

- ▦ **Perform Directories Differencing** - Looks for differences between the two directories displayed in the left and right side of the application window.
- ▵ **Perform Files Differencing** - Compares the currently selected files.
- ◂ **Copy Change from Right to Left** - Copies the selected change from the right side to the left side (if there is no file/folder in the right side, the left file/folder is deleted).
- ▸ **Copy Change from Left to Right** - Copies the selected change from the left side to the right side (if there is no file/folder in the left side, the right file/folder is deleted).

Compare Toolbar

The toolbar contains the following actions:

Figure 3: The Compare toolbar

- **Perform directories differencing** - Looks for differences between the two directories displayed in the left and right side of the application window.

- **Perform files differencing** - Compares the currently selected files.

- **Copy Change from Right to Left** - Copies the selected change from the right side to the left side (if there is no file/folder in the right side, the left file/folder is deleted).

- **Copy Change from Left to Right** - Copies the selected change from the left side to the right side (if there is no file/folder in the left side, the right file/folder is deleted).

- **Binary Compare** - Performs a byte-level comparison on the selected files.

- **Diff Options** - Opens the Directories Comparison preferences page.

- **Show Only Modifications** - Displays a more uncluttered file structure by hiding all identical files.

- Files and folders filters - Differences can be filtered using three filter boxes: **Include files, Exclude files, Exclude folders**. They come with predefined values and are editable to allow more custom values. All of them accept multiple comma separated values and the ***** and **?** wildcards. For example, to filter out all jpeg and gif image files, edit the **Exclude files** filter box to read ***.jpeg, *.png**. Each filter keeps a list with the latest 15 filters applied in the drop-down list of the filter box.

Directories Selector

To open the directories you want to compare, select a folder from each **Browse for local directory** button. Oxygen XML Diff keeps track of the folders you are currently working with and those you opened in this window. You can see and select them from the two combo-boxes.

If you want to compare two archives' content you can select the archives from the **Browse for archive file** button.

👉 **Tip:** By default Oxygen XML Diff treats supported archives as directories and the comparison is also done with the files inside them. You can disable this behaviour by unchecking the **Look in archives** checkbox from the *Diff preferences page* .

Comparison Result

The directory comparison result is presented using two tree-like structures, showing files and folders names, size and modification date.

Name	Size	Modified		Name	Size	Modified
length-bad.xml	140	2010-07-12 16:43:03		length-bad.xml	140	2010-07-12 16:43:03
length-bad1.xml	140	2010-07-12 16:43:04	≠	length-bad1.xml	125	2010-09-02 11:41:14
length-bad2.xml	143	2010-07-12 16:43:04	≠	length-bad2.xml	126	2010-09-02 11:41:07
length-good.xml	141	2010-07-12 16:43:03	≠	length-good.xml	126	2010-09-02 11:41:03
length.dtd	91	2010-07-12 16:43:03	X			
length.sch	648	2010-07-12 16:43:03	X			
name-bad.xml	171	2010-07-12 16:43:03	≠	name-bad.xml	155	2010-09-02 11:40:38
name.dtd	192	2010-07-12 16:43:03	≠	name.dtd	158	2010-09-02 11:42:09
name.sch	566	2010-07-12 16:43:04	≠	name.sch	351	2010-09-02 11:40:50
present-bad.xml	224	2010-07-12 16:43:04	≠	present-bad.xml	171	2010-09-02 11:41:47
present.dtd	130	2010-07-12 16:43:03	≠	present.dtd	60	2010-09-02 11:40:28
present.sch	482	2010-07-12 16:43:03	≠	present.sch	295	2010-09-02 11:41:51
required-bad1.xml	205	2010-07-12 16:43:03	≠	required-bad1.xr	163	2010-09-02 11:41:24
required-bad2.xml	189	2010-07-12 16:43:03	≠	required-bad2.xr	155	2010-09-02 11:41:18
required-good.xml	197	2010-07-12 16:43:03		required-good.xr	197	2010-07-12 16:43:03
required.dtd	128	2010-07-12 16:43:03	≠	required.dtd	91	2010-09-02 11:41:42
required.sch	612	2010-07-12 16:43:03	≠	required.sch	363	2010-09-02 11:41:38
▲ author	N/A	2010-09-01 11:23:14		▲ author	N/A	2010-09-02 11:42:38
author.sch	613	2010-07-12 16:43:04	X			
source1.xml	165	2010-07-12 16:43:04	X			
source2.xml	184	2010-07-12 16:43:04	X			
▷ paragraph	N/A	2010-09-01 11:23:14		▷ paragraph	N/A	2010-09-02 11:39:34

Compared using 'Timestamp (last modified date/time)'. 20 differences from which: 13 modified files, 7 only in left side, 0 only in right side.

Figure 4: Comparison result

A column holding graphic symbols separate the two tree-like structures. The graphic symbols can be:

- an "X" sign, when a file or a folder exists only in one of the compared directories;
- a "not-equal" sign, if a file exists in both directories, but the content is different. The same sign appears when a collapsed folder contains modified files.

The color used for painting the sign and the directory or file name can be customized in the *Directories Comparison / Appearance* preferences page. You can double-click the line marked with the "not-equal" sign and a new **File Content Comparison** window is opened, showing the differences between the two files.

Compare Images

By double-click a line containing two different images a compare images dialog is displayed. The dialog presents the images in the left and right part scaled to fit the view available area. You can use the contextual menu actions to scale the images at their original size or scale them down to fit in the view available area.

The supported image types are: GIF, JPG / JPEG, PNG, BMP.

Files Comparison

The comparison of a pair of files is done by opening them in two editors arranged in a side-by-side layout. The line numbers on the left side of each editor help you to identify quickly the locations of the differences.

You can edit both the source and the target file. The differences are refreshed when you save the modified document.
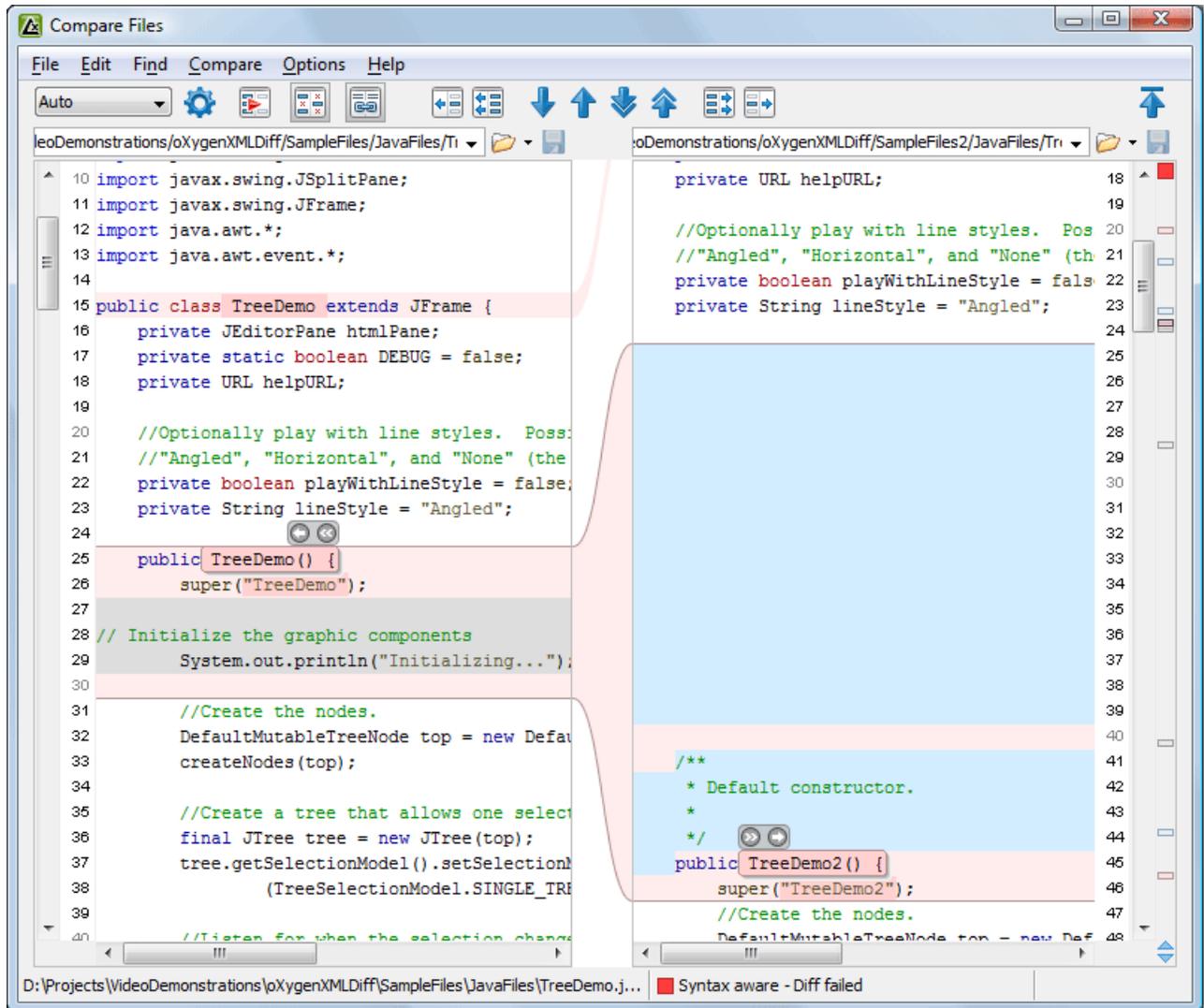
Figure 5: The Compare Files Window

Adjacent changes in any of the compared files are grouped into blocks of changes. This allows an easier visual identification and focuses on a group of related changes.

A widget containing actions that can be used to copy or append changes from either of the two sides is displayed for a selected change:

*   ⊙ and ⊘ - copy the content of the selected change from one side and appends it after the content of the corresponding change from the other side; as a result, the side towards which the arrows point will contain the changes from both sides.
*   ⊙ and ⊙ - replace the content of a change from one side with the content of the corresponding change from the other side.

Main Menu

This section explains the menu actions of the **Files Comparison** window.

File Menu

The following actions are available:

*   **Source** - The file is displayed in the left side of the application window

- **Source** > 📂 **Open** - Browses for a source file.
- **Source** > 📂 **Open URL** - Opens URL to be used as a source file.
- **Source** > 📁 **Open File from Archive** - Browses an archive content for a source file.
- **Source** > 💾 **Save** - Saves the changes made in the source file.
- **Source** > **Save As...** - Displays the **Save As** dialog that allows you to save the source file with a new name.

- **Target** - The file is displayed in the right side of the application window

  - **Target** > 📂 **Open** - Browses for a target file.
  - **Target** > 📂 **Open URL** - Opens URL to be used as a target file.
  - **Target** > 📁 **Open File from Archive** - Browses an archive content for a source file.
  - **Target** > 💾 **Save** - Saves the changes made in the target file.
  - **Target** > **Save As...** - Displays the **Save As** dialog that allows you to save the target file with a new name.

- **Exit** - Quits the application.

Edit Menu

The following actions are available:

- ✂ **Cut** - Cut selection to clipboard from the local file currently opened in the Editor view or the Compare view.
- 📋 **Copy** - Copy selection to clipboard from the local file currently opened in the Editor view or the Compare view.
- 📋 **Paste** - Paste selection from clipboard in the local file currently opened in the Editor view or the Compare view.
- ↩ **Undo** - Undo edit changes in the local file currently opened in the Editor view or the Compare view.
- ↪ **Redo** - Redo edit changes in the local file currently opened in the Editor view or the Compare view.

Find Menu

The find actions are the following:

- 🔍 **Find/Replace** - Perform find/replace operations in the local file currently opened in the **Editor** view or the **Compare** view.
- 🔍 **Find Next** - Go to the next match using the same options of the last find operation. The action runs in the editor panel and in any non-editable text area, for example the **Console** view.
- 🔍 **Find Previous** - Go to the previous match using the same options of the last find operation. The action runs in the editor panel and in any non-editable text area, for example the **Console** view.

Compare Menu

The following actions are available in this menu:

📊 **Perform Files Differencing** - Performs a comparison between the source and target files.

⬇ **Next Block of Changes** - Jumps to the next block of changes. This action is disabled when the cursor is positioned on the last change block or when there are no changes in the document. In Oxygen Diff Directories, when the last block of changes in the current file is reached, the behaviour of this action is controlled by *Navigation* options.

👉 **Note:** A change block groups one or more consecutive lines that contain at least one change.

⬆ **Previous Block of Changes** - Jumps to the previous block of changes. This action is disabled when the cursor is positioned on the first change block or when there are no changes in the document. In Oxygen Diff Directories, when the first block of changes in the current file is reached, the behaviour of this action is controlled by *Navigation* options.

Next Change - Jumps to the next change from the current block of changes. When the last change from the current block of changes is reached, it highlights the next block of changes. This action is disabled when the cursor is positioned on the last change. In Oxygen Diff Directories, when the last change in the current file is reached, the behaviour of this action is controlled by *Navigation* options.

Previous Change - Jumps to the previous change from the current block of changes. When the first change from the current block of changes is reached, it highlights the previous block of changes. This action is disabled when the cursor is positioned on the first change. In Oxygen Diff Directories, when the first modification in the current file is reached, the behaviour of this action is controlled by *Navigation* options.

Last Change - Jumps to the last change from the current file.

First Change - Jumps to the first change from the current file.

Copy All Changes from Left to Right - Copies all changes from source to target file.

Copy Change from Left to Right - Copies the selected difference from source to target file.

Copy Change from Right to Left - Copies the selected difference from target to source file.

Copy All Changes from Right to Left - Copies all changes from target to source file.

Show Word Level Details - Provides a word-level comparison of the selected change.

Show Character Level Details - Provides a character-level comparison of the selected change.

Options Menu

- **Preferences** - Opens the options pages.
- **Menu Shortcut Keys** - Opens the **Menu Shortcut Keys** option page. Here you can configure all keyboard shortcuts available for menu items available in Oxygen XML Diff.
- **Reset Global Options** - Resets options to their default values.
- **Import Global Options** - Allows you to import options you have previously exported.
- **Export Global Options** - Allows you to export the current options to a file.

Help Menu

- **Help** - Opens the Help dialog.
- **Check for a New Version** - checks the availability of new Oxygen XML Diff versions.
- Browse Oxygen XML Diff website - Opens the Oxygen XML Diff website in your default web browser.
- **Register** - Opens the registration dialog.
- **Report problem** - Opens a dialog that allows the user to write the description of a problem that was encountered while using the application.
- **Support center** - Opens the Oxygen XML Diff Support Center web page in a browser.
- **About** - Opens the About dialog.

Compare Toolbar

This toolbar contains the operations that can be performed on the source and target files.

Figure 6: The Compare Toolbar

The following actions are available:

- **Algorithm** - This option box allows you to select one of the 6 available compare algorithms:

  - *Characters* algorithm computes the differences at character level;

  - *Words* algorithm computes the differences at word level;

  - *Lines* algorithm computes the differences at line level;

  - *Syntax Aware* for file types known by Oxygen XML Diff. It computes the differences considering the documents syntax.

  - *XML Fast* works on larger files but it is less precise than XML Accurate.

  - *XML Accurate* works best on small files XML files.

  - *Auto* selects the most appropriate algorithm, based on the files content and size. By default, an **Auto** mode is selected.

- **Diff Options** - Opens the *Files Comparison page*.

- **Perform Files Differencing** - Performs a comparison between the source and target files.

- **Ignore Whitespaces** - Enables or disables the whitespace ignoring feature. Ignoring whitespace means that before performing the comparison, the application normalizes the content and trims its leading and trailing whitespaces.

- **Synchronized scrolling** - Synchronizes scrolling of the two open files, so that a selected difference can be seen on both sides of the application window. This action enables/disables the previous described behavior.

- **Copy Change from Right to Left** - Copies the selected difference from target to source file.

- **Copy All Changes from Right to Left** - Copies all changes from target to source file.

- **Next Block of Changes** - Jumps to the next block of changes. This action is disabled when the cursor is positioned on the last change block or when there are no changes in the document. In Oxygen Diff Directories, when the last block of changes in the current file is reached, the behaviour of this action is controlled by *Navigation* options.

- **Previous Block of Changes** - Jumps to the previous block of changes. This action is disabled when the cursor is positioned on the first change block or when there are no changes in the document. In Oxygen Diff Directories, when the first block of changes in the current file is reached, the behaviour of this action is controlled by *Navigation* options.

- **Next Change** - Jumps to the next change from the current block of changes. When the last change from the current block of changes is reached, it highlights the next block of changes. This action is disabled when the cursor is positioned on the last change. In Oxygen Diff Directories, when the last change in the current file is reached, the behaviour of this action is controlled by *Navigation* options.

- **Previous Change** - Jumps to the previous change from the current block of changes. When the first change from the current block of changes is reached, it highlights the previous block of changes. This action is disabled when the cursor is positioned on the first change. In Oxygen Diff Directories, when the first modification in the current file is reached, the behaviour of this action is controlled by *Navigation* options.

- **Copy All Changes from Left to Right** - Copies all changes from source to target file.

- **Copy Change from Left to Right** - Copies the selected difference from source to target file.

- **First Change** - Jumps to the first change from the current file.

Files Selector

To open the source and target files where you want to see the differences, select a file from the **Open** or **Open URL** button. Oxygen XML Diff keeps track of the files you are currently working with and those you opened in this window. You can see and select them from the two combo-boxes.

You can also save the changes in the source file or the target file by clicking the corresponding "Save" button.

File Contents Panel

The files are opened in two side-by-side editors. The text view is used, offering a better view of the differences.

The two editors are kept in sync, so if you scroll the text in one of them, the other one will also scroll to show the difference. The differences are indicated using highlights connected through colored areas. You can use the **Go to modification** buttons to navigate between differences or simply select a change by clicking it in the overview ruler located in the right-most part of the window. Also, the overview ruler contains a success indicator in its upper part that will turn green in case the are no differences and red if differences are found. You can also do this by clicking a colored area between the text editors.

You can edit either the source or the target file. The differences are refreshed when you save the modified document.

Both editors provide a contextual menu that contains edit, merge and navigation actions.

The **Find/Replace** dialog is displayed by pressing **Ctrl+F** (**Cmd+F** on Mac). Also there are available the **Find/Replace** options: **F3** used to perform another search using the last search configuration, and **Shift+F3** to perform another search in backward direction using the last search configuration.

If the compared blocks of text are too large and you want to see the differences at a finer level, you can use the comparison at **Word** or **Character** level.

Word Level Comparison

This option is only available if modifications exist between the source and the target file. You can go to Word Level Comparison by clicking the **Show modification details at word level** button from the Compare Panel or from the Operations menu.
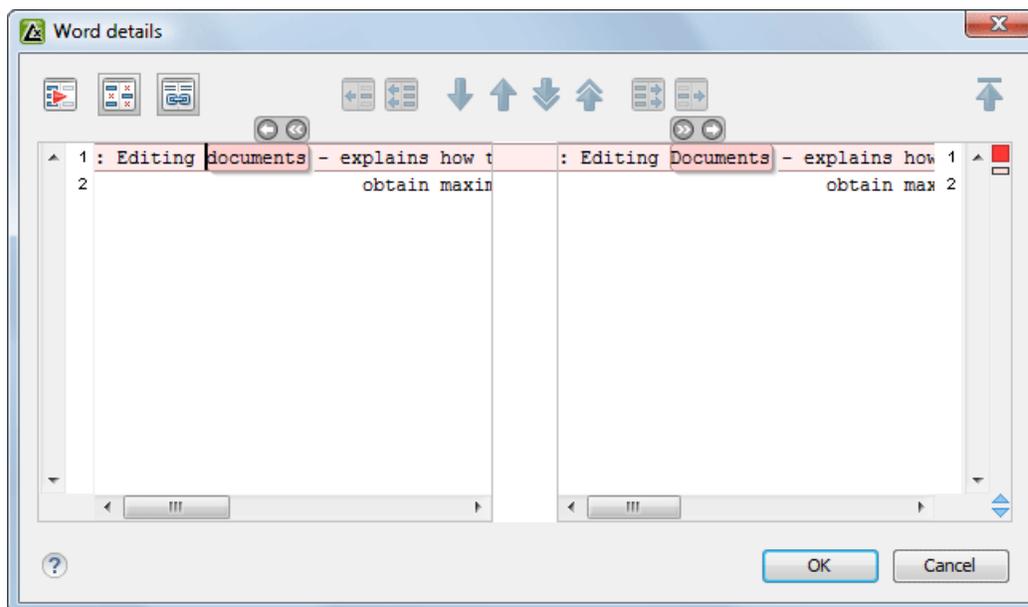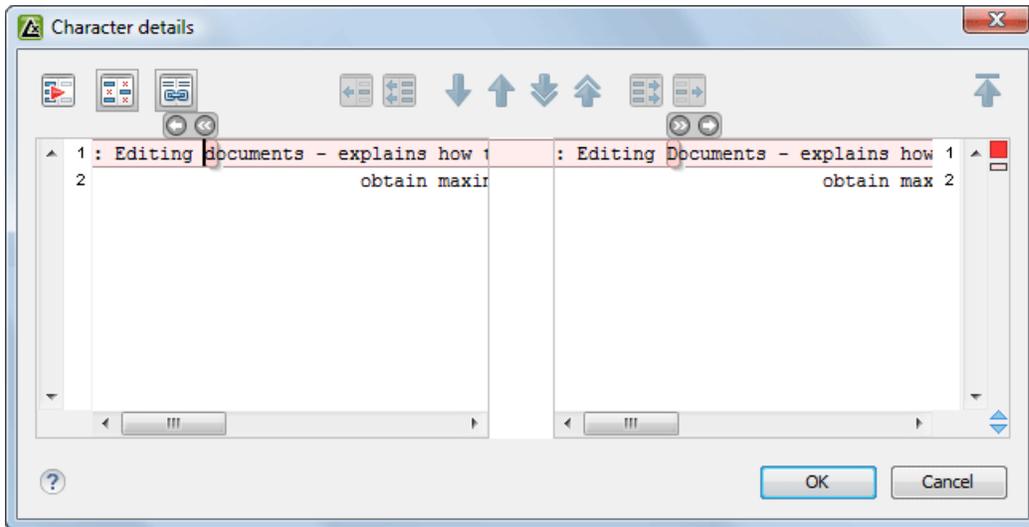

Figure 7: Word Level Comparison

Character Level Comparison

This option is only available if modifications exist between the source and the target file. You can go to Character Level Comparison by clicking the **Show Modification Details at Char Level** button from the compare panel or from the **Compare** menu.

Figure 8: Character Level Comparison

XML Diff API

The following interface is available for calling the XML diff processor from a custom Java application:

- `ro.sync.diff.api.DifferencePerformer` - It compares two resources of a given content type using a set of options. It has the following methods:

  - `performDiff` - Perform a diff operation between the two specified resources. It returns a list with the differences. The parameters are the following:

    1. leftContentReader - A value of type `java.io.Reader` that provides the content of the first resource.
    2. rightContentReader - A value of type `java.io.Reader` that provides the content of the second resource.
    3. leftSystemId - A string value that is the location of the first resource.
    4. rightSystemId - A string value that is the location of the second resource
    5. contentType - A constant from the `ro.sync.diff.api.DiffContentTypes` interface.
    6. diffOptions - The user options like algorithm strength, ignore whitespaces, ignore comments, merge adjacent differences, etc. It is a value of type `ro.sync.diff.api.DiffOptions`.
    7. diffProgressListener - An object that will be notified about the progress of the diff operation. It is a value of type `ro.sync.diff.api.DiffProgressListener`.

  - `stop` - Signal to the diff performer that it must stop.

An example of this interface can be found in the class `ro.sync.diff.api.sample.DiffXMLFilesSample` which is included in the *XML Diff SDK*.

Chapter

4

Text Editor Specific Actions

Topics:

The Text mode of the editor panel provides the usual actions specific for a plain text editor: undo / redo, copy / paste, find / replace, etc. These actions are executed from the menu bar or toolbar and also by invoking their usual keyboard shortcuts.

Undoing and Redoing User Actions

- **Undo** - menu **Edit** > **Undo (Ctrl+Z)** - Reverses a maximum of 100 editing actions to return to the preceding state. Complex operations like **Replace All**, **Indent selection**, etc are treated as a single undo event.
- **Redo** - menu **Edit** > **Redo (Ctrl+Y for Windows, Ctrl+Shift+Z for Mac OSX and Linux)** - Recreates a maximum of 100 editing actions that were undone by the **Undo** function.

Copying and Pasting Text

- **Edit** > **Cut (Ctrl+X)** - Removes the current selected node from the document and places it in the clipboard.
- **Edit** > **Copy (Ctrl+C)** - Places a copy of the current selection in the clipboard as RTF. All text attributes such as color, font or syntax highlight are preserved when pasting into another application.
- **Edit** > **Paste (Ctrl+V)** - Places the current clipboard content into the document at the cursor position.
- **Edit** > **Select All (Ctrl+A)** - Selects the entire body of the current document, including whitespace preceding the first and following the last character.

Finding and Replacing Text in the Current File

This section explains how to use the find and replace features of the application.

The Find / Replace Dialog

The **Find / Replace** dialog is opened from menu **Find** > **Find / Replace... (Ctrl+F)** . It enables you to define search and replace operations on the current document. The find works on multiple lines, which means a find match can cover characters on more than one line. Special characters like newline and tab can be inserted using the contextual menu.

To insert a new line in the find or replace text area, press **(CTRL + Enter)** instead of **(Enter)**. The replace operation can bind Perl 5 regular expression group variables ($1, $2, etc.) from the find match. For example to replace the tag with attributes called `tag-name` with the tag `tag-name1` use *<tag-name(\s+)(.*)>* in the **Text to find** area and *<tag-name1$1$2>* in the **Replace with** area.

The following actions can be executed in the **Find / Replace** dialog:

- Find occurrences of a word or string of characters including white spaces, represented on one or multiple lines. Highlight their position in the editor.
- Replace occurrences of target defined in the **Text to find** area with a word or string of characters, including white spaces, that can be on a line or on multiple lines, defined in the **Replace with** area.
- Find all occurrences of a word or string of characters including white spaces that can be on a line or on multiple lines and display a result list to the message panel.
- Replace all occurrences of a word or string of characters including white spaces that can be on a line or on multiple lines.
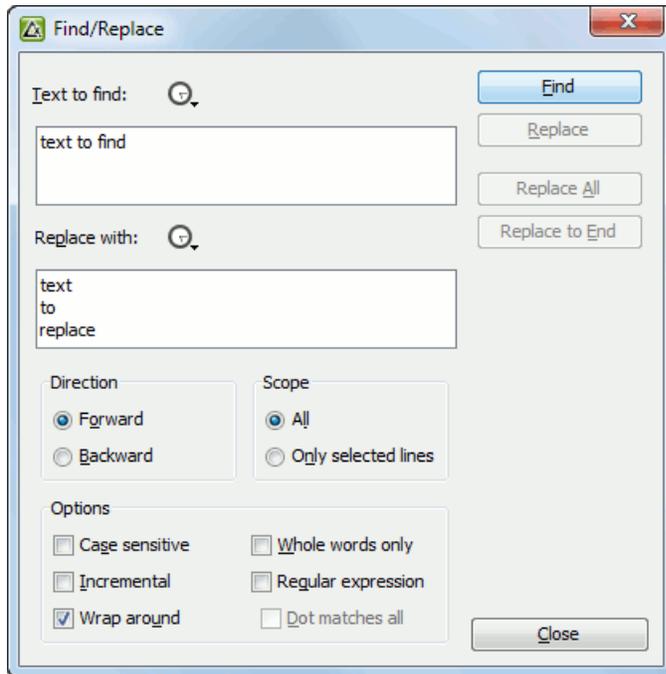
Figure 9: Find / Replace Dialog

The dialog contains the following options:

- **Text to find** - The target character string to search for. You can search for Unicode characters specified in the \uNNNN format. Also, hexadecimal notation (\xNNNN) and octal notation (\0NNNN) can be used. In this case you have to check the **Regular expression** checkbox. For example, to search for a space character you can use the \u0020 code.
- **Replace with** - The character string with which to replace the target. The string for replace can be on a line or on multiple lines. Special characters like newline and tab can be inserted using the contextual menu. It may contain Perl 5 regular expression group markers, only if the search expression is a regular expression and the **Regular expression** checkbox is checked.

  👉 **Note:** Some regular expressions may block indefinitely the Java Regular Expressions engine. If the execution of the regular expression does not end in about five seconds, the application displays a dialog that allows you to interrupt the operation.

  Unicode characters can also be used in the **Replace with** area.
- The history buttons 🕒 - The last find and replace operations history is available using the 🕒 history buttons from the top of the find and replace text areas.
- **Direction** - Specifies if the search direction is from current position to end of file (**Forward** direction) or to start of file (**Backward** direction).
- **Scope** - Specifies if the search is executed on all file or only on the lines that were selected when the dialog was invoked. If the selection was on a single line the search is executed on the whole file (by default the **All** option is selected).
- **Find** - Executes a find operation for the next occurrence of the target. It stops after highlighting the find match in the editor panel.
- **Replace** - Executes a replace operation for the target followed by a find operation for the next occurrence.
- **Replace All** - Executes a replace operation in the entire scope of the document.
- **Replace to End** - Executes a replace operation starting from current target until the end of the document, in the direction specified by the current selection of the **Direction** switch (**Forward** or **Backward**).
- **Case sensitive** - When checked, operations are case-sensitive.
- **Whole words only** - When checked, only whole occurrences of a word will be included in the operation.

- **Incremental** - When checked, the search operation is started every time you type or delete a letter in the **Text to find** text box.
- **Regular expression** - When checked, it allows you to use regular expressions in Perl 5 syntax. A content completion assistant window is available to help you edit regular expressions. It is activated every time you type \(backslash key) or on-demand if you press **Ctrl-Space**.
- **Dot matches all** - A dot used in a regular expression matches also end of line characters.
- **Wrap around** - Continues the find from the start (end) of the document after reaching the end (start) when the search is in forward (backward) direction.

Keyboard Shortcuts for Finding the Next and Previous Match

Navigation from a find match to the next one or the previous one is very easy with two keyboard shortcuts: F3 and Shift F3. They are useful to quickly repeat the last find action performed with *the Find / Replace dialog,* taking into account the same find options set there through check boxes.

- **Find** > **Find Next (F3)** - Performs another search in forward direction using the last search configuration.
- **Find** > **Find Previous (Shift+F3)** - Performs another search in backward direction using the last search configuration.

Chapter

5

Configuring the Application

Topics:

This chapter presents all the user preferences that allow you to configure the application .

Importing / Exporting Global Options

In the **Options** menu you can find the import / export preferences operations which allow you to move your global preferences in XML format from one computer to another.

Preferences

Once the application is installed you can use the **Preferences** dialog accessed from menu **Options** > **Preferences** to customize the application settings for your requirements and network environment.

There is a search field available in the dialog for selecting only the preferences panels containing required words in the panel title or in the text of labels, buttons, tables, etc contained in the panel. If you want to go to first match press **(Enter)**, **(Up Arrow)** or **(Down Arrow)**.
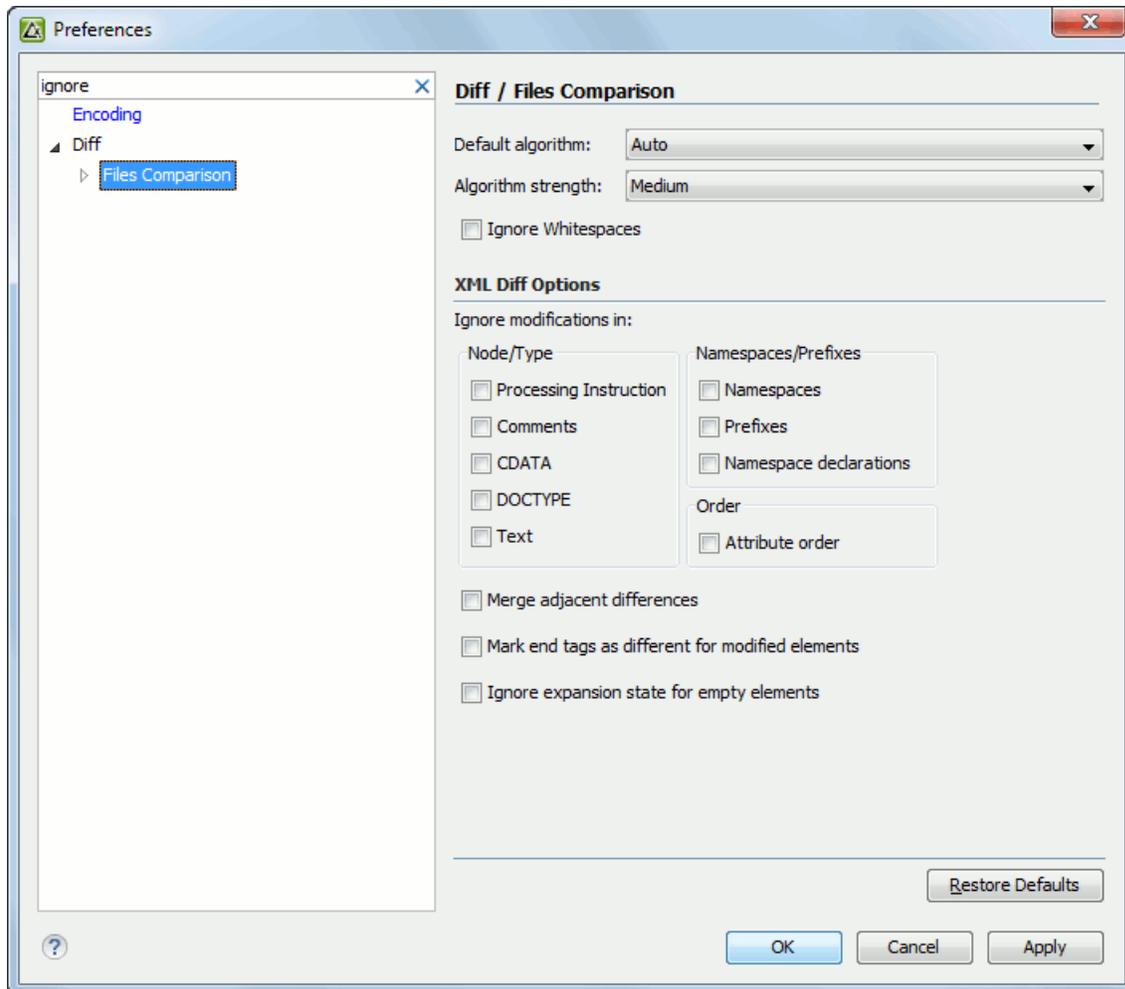

Figure 10: The Search field from the Preferences dialog

You can always revert modifications to their default values by pressing the **Restore Defaults** button, available in each preference page.

If you don't know how to use a specific preference that is available in any **Preferences** panel or what effect it will have you can open a help page about the current panel at any time pressing the help button ⑦ located in the left bottom corner of the dialog or pressing the F1 key.

Global

The **Global** preferences panel is opened from menu **Options** > **Preferences** > **Global** .
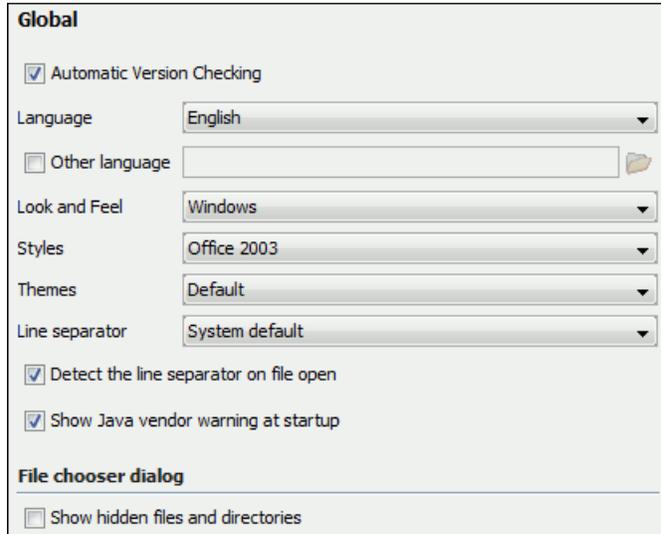
Figure 11: The Global preferences panel

The following user preferences are av available in this panel:

- **Automatic Version Checking** - When enabled, checks the availability of new Oxygen XML Diff versions at *http://www.oxygenxml.com/diff*.
- **Language** - The application supports a number of languages for localization of the GUI. Go to menu **Options** > **Preferences** > **Global** and select the **Language** drop-down list to display the language choices.

  👉 **Note:** After restarting the application, if some GUI labels are not rendered correctly (for example Chinese or Korean characters) you will need to install the corresponding language pack from your OS installation kit (for example the East-Asian language pack).

  👉 **Note:** For more details about localizing the user interface in a custom language, read the *Localization of the User Interface* section.

- **Other language** - To change the user interface language of Oxygen XML Diff you must set here the properties file with all the user interface messages and labels translated to your preferred language. After setting the file you have to restart Oxygen XML Diff in order to change the user interface language to your preferred language.
- **Look and Feel** - Use this option to change graphic style (look and feel) of the GUI.
- **Styles** - On Windows there are available the following styles:

  - Office 2003
  - Vsnet
  - Eclipse
  - Xerto
  - Default

  👉 **Note:** After changing the style you have to restart the application in order for the modification to take effect.

On Linux there are available the following styles:

- Eclipse
- Default

👉 **Note:** After changing the style you have to restart the application in order for the modification to take effect.

On Mac OS X this option is not available.

- **Themes** - On Windows this option is enabled only for the **Office 2003** and **Default** styles. In these cases, the following themes are available:

  - Normal Color
  - Home Stead
  - Metallic
  - Default
  - Gray

  On Linux and Mac OS X this option is not available.

- **Line separator** - This option defines the line separator. The **System Default** choice sets the line separator of the platform.
- **Detect the line separator on file open** - When this option is checked the editor will detect the line separator when the edited file is loaded and it will use it when the file is saved. The new files are saved using the line separator defined by the **Line separator** option.
- **Show Java vendor warning at startup** - Sun Microsystems/Oracle Java VM (on Windows and Linux) or Apple Computer Java VM (on Mac OS X) is recommended for running Oxygen XML Diff. If a different VM is used, then a warning is displayed. This option allows the user to choose whether the warning dialog is shown or not.
- **Show hidden files and directories** - Shows system hidden files and folders in the file browser dialog and the folder browser dialog. This setting is not available on Mac OS X but you can also toggle show hidden files/directories between enabled and disabled state on Mac OS X by pressing **Command-Shift-Period** in the Open dialog or in the Save dialog.

Fonts

The **Fonts** preferences panel is opened from menu **Options** > **Preferences** > **Fonts** .
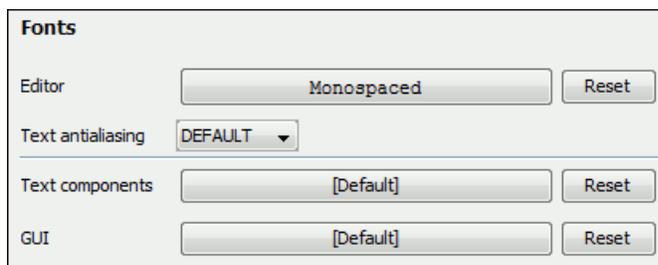
Figure 12: The Fonts preferences panel

The fonts that can be configured in Oxygen XML Diff are the following:

- **Editor** - The font family and font size used to display text in the editor.
- **Text antialiasing** - Enables text anti-aliasing at the specified level. On JVM versions before 1.6 this combo box contains only the values **Default**, **On** and **Off**. Default means that does not set anything special for text anti-aliasing but the JVM uses the setting of the operating system, if available. The **On** option sets the text anti-aliasing to pixel level and the **Off** option disables it. Starting with version 1.6 the combo contains also values specific for sub-pixel anti-aliasing, like GASP, LCD_HRGB, LCD_VRGB which sets the respective anti-aliasing mode for the text displayed in the editors and views.
- **Text components** - The font family and font size used to display text in text components. After changing the font, restart the application to see the effect.

- **GUI** - The font family and font size used to display GUI labels. After changing the font, restart the application to see the effect.

Encoding

The **Encoding** preferences panel is opened from menu **Options** > **Preferences** > **Encoding**

Figure 13: The Encoding preferences panel

The encoding preferences are the following:

- **Encoding for non XML files** - The default encoding to be used when the application opens non XML documents. This is necessary because non XML files have a large variety of formats and there is no standard mechanism for declaring the encoding that should be used for opening and saving the file. In case of XML files the encoding is declared at the beginning of the file in a special declaration element or it is assumed to be the default value UTF-8.
- **Encoding errors handling** - This option defines how to handle characters that cannot be represented in the specified encoding of the document when the document is opened. The available options are:

  - **REPORT** - Shows an error dialog with the character that cannot be represented in the specified encoding. This is the default option.
  - **IGNORE** - The character is ignored and it is not included in the document displayed in the editor panel.

    ⚠ **Attention:** If you edit and save the document, the characters that cannot be represented in the specified encoding are dropped.

  - **REPLACE** - Replace the character with a standard replacement character. For example if the encoding is UTF-8 the replacement character has the Unicode code FFFD, and if the encoding is ASCII the character code is 63.

Editor

The **Editor** preferences panel is opened from menu **Preferences** > **Editor** .

Use these options to configure the visual aspect of the text editor.
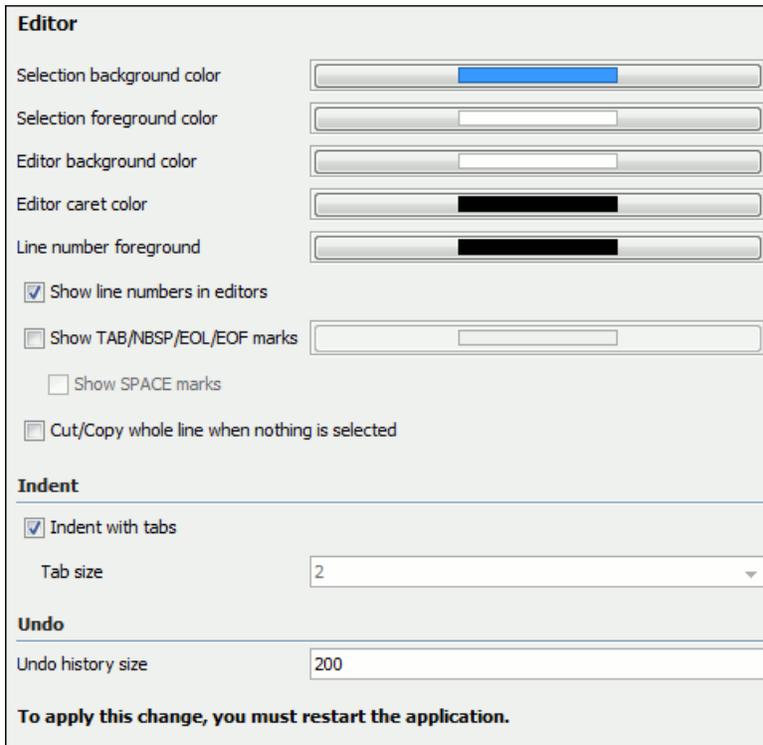
Figure 14: The Editor Preferences Panel

The following options are available in this panel:

- **Selection background color** - Background color of selected text.
- **Selection foreground color** - Text color of selected text.
- **Editor background color** - Background color of the editor and also of the Diff Files' editors.
- **Editor caret color** - Customize the caret color.
- **Line number foreground** - Foreground color for the line numbers displayed at the right of editor panel.
- **Show line numbers in editor** - Enables the line numbers column located in the left part of the editing space. When unchecked, line numbers option is disabled.
- **Show TAB/NBSP/EOL/EOF marks** - Marks the TAB/NBSP/EOL/EOF using small icons, for a better visualization of the document. Also set the marks color.
- **Show SPACE marks** - Marks the SPACE characters with a dot.
- **Indent with tabs** - When checked set the indent to a tab unit. When unchecked, the indent measures as many spaces as needed to go to the next tab stop position. The maximum number of space characters is defined by the **Tab size** option.
- **Tab size** - Sets the number of spaces or the tab size that equals a single indent. The *Indent* can be spaces or a tab, select the preference using the **Indent With Tabs** option. If set to 4, one tab will equal 4 white spaces or 1 tab with size of 4 characters depending on which option was set in the **Indent With Tabs** option.

Open / Save

The **Open / Save** preferences panel is opened from menu **Options** > **Preferences** > **Editor** > **Open / Save** .
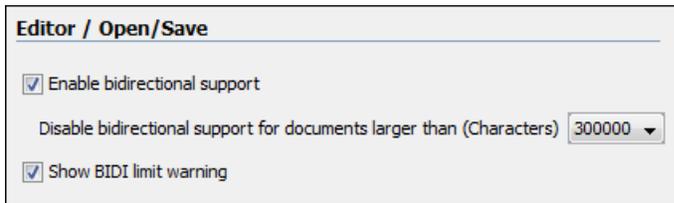
Figure 15: The Open / Save Preferences Panel

The preferences related with opening and saving documents are the following:

- **Characters limit for bidirectional text documents** - Specifies the characters limit for bidirectional text documents. If the total number of characters found in a document exceeds this limit, the bidirectional support is disabled.
- **Show BIDI limit warning** - If checked, a warning dialog is shown when the opened file which contains bidirectional characters is too large and bidirectional support is disabled to improve application performance.
- **Consider application bundles to be directories when browsing** - This option is available only on the Mac OS X platform. When checked the file browser dialog allows browsing inside an application bundle as in a regular folder. When unchecked the file browser dialog does not allow browsing inside an application bundle, as the Finder application does on Mac OS X. The same effect can be obtained by setting the property *apple.awt.use-file-dialog-packages* to true or false in the `Info.plist` descriptor file of the Oxygen XML Diff application by adding two lines in this descriptor file:

```
<key>apple.awt.use-file-dialog-packages</key>
<string>false</string>
```
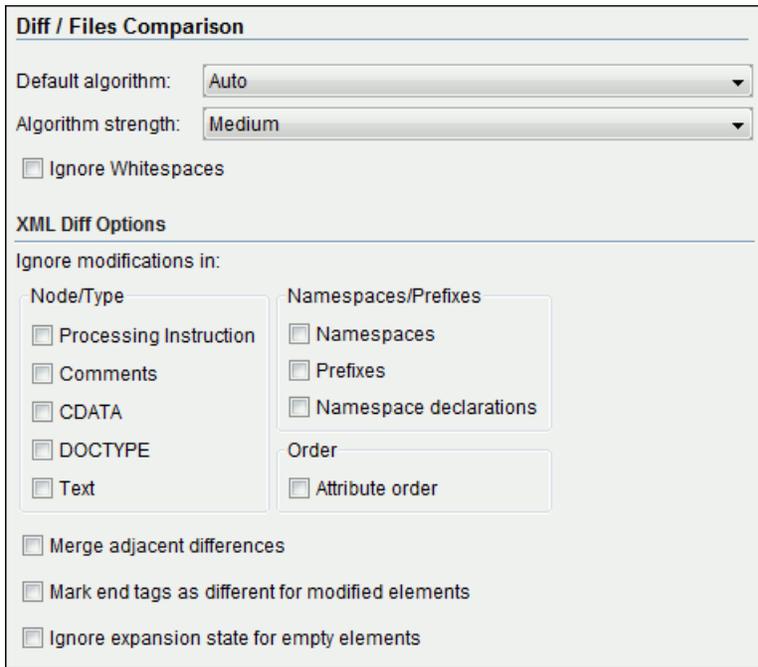
Files Comparison

Oxygen XML Diff offers six different diff algorithms to choose from for file comparison:

- two XML diff algorithms: **XML Fast** and **XML Accurate**,
- a **Syntax Aware** algorithm that gives very good results on all file types known by Oxygen XML Diff,
- three all-purpose algorithms: line based, word based and character based.

Any of these six algorithms can be used to perform differences on request, but Oxygen XML Diff offers also an automatic mode that selects the most appropriate one, based on the file content and size.

The **Files Comparison** preferences panel is opened from menu **Options** > **Preferences** > **Diff** > **Files Comparison** and offers the following configurable preferences:
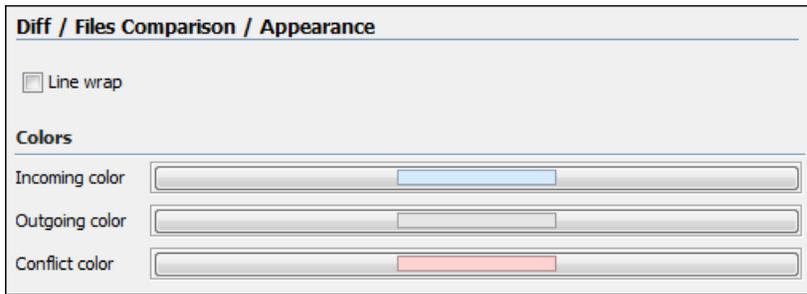
Figure 16: The Files Comparison Preferences Panel

- **Default algorithm** - The default algorithm used for comparing files. The following options are available:

  - **Auto** - Automatic selection of the diff algorithm, based on the file content and size.
  - **Characters** - Computes the differences at character level.
  - **Words** - Computes the differences at word level.
  - **Lines** - Computes the differences at line level.
  - **Syntax aware** - For the file types known by Oxygen XML Diff, this algorithm computes the differences taking into consideration the syntax (the specific types of tokens) of the documents.
  - **XML Fast** - A diff algorithm well-suited for large XML documents (tens of MB). Sacrifices accuracy in favor of speed.
  - **XML Accurate** - XML-tuned diff algorithm. It favors accuracy over speed.

- **Algorithm strength** - Controls the amount of resources allocated to the application to perform the comparison. The algorithm stops searching more differences when reaches the maximum allowed resources. A dialog is shown when this limit is reached and partial results are displayed. Four settings are available: **Low**, **Medium** (default), **High** and **Very High**.
- **Ignore Whitespaces** - Enables or disables the whitespace ignoring feature. Ignoring whitespace means that before performing the comparison, the application normalizes the content and trims its leading and trailing whitespaces.
- **XML Diff Options** - This set of options allows you to specify the types of XML nodes for which the differences will be ignored (will not be reported) by the **XML Fast** and **XML Accurate** algorithms.
- **Merge adjacent differences** - If checked, it considers two adjacent differences as one when the differences are painted in the side-by-side editors. If unchecked, every difference is represented separately.
- **Mark end tags as different for modified elements** - If checked, end tags of modified elements are presented as differences too, otherwise only the start tags are presented as differences.
- **Ignore expansion state for empty elements** - If checked, empty elements in both expansion states are considered matched, that is <element/> and <element></element> are considered equal.

Appearance

The **Files Comparison / Appearance** preferences panel is opened from menu **Options** > **Preferences** > **Diff** > **Files Comparison** > **Appearance** and offers the following options:

Figure 17: Files Comparison Appearance Preferences Panel

- **Line wrap** - If checked, the lines presented in the two diff panels are wrapped at the right margin of each panel so that no horizontal scrollbar is necessary.
- **Incoming color** - The color used for incoming changes on the vertical bar that shows the differences between the files compared.
- **Outgoing color** - The color used for outgoing changes on the vertical bar that shows the differences between the files compared.
- **Conflict color** - The color used for conflicts on the vertical bar that shows the differences between the files compared.

Directories Comparison

The **Directories Comparison** preferences panel is opened from menu **Options** > **Preferences** > **Diff** > **Directories Comparison** and offers the following configurable preferences:
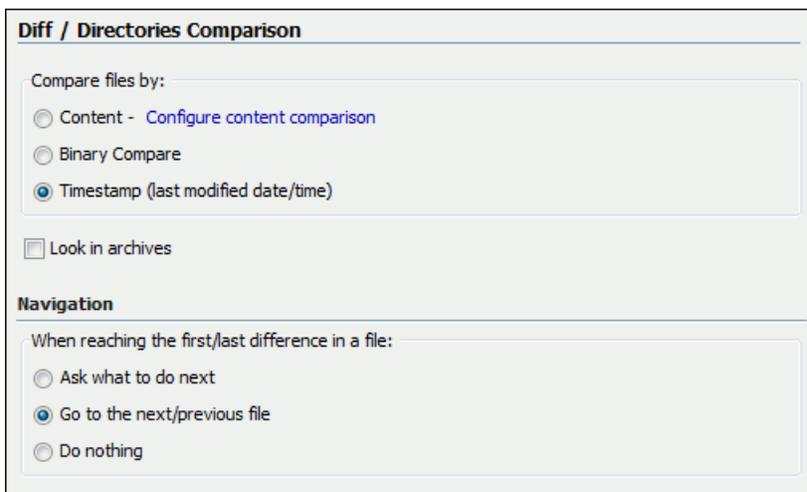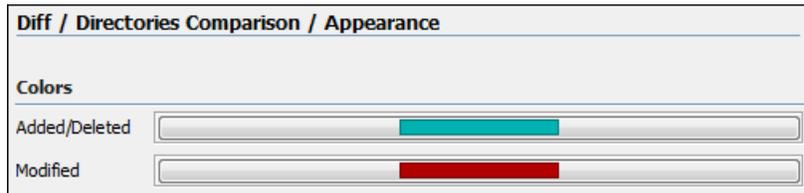

Figure 18: The Diff Preferences Panel

For the directories comparison, you can specify:

- **Compare files by** - Controls the method used for comparing two files:

  - **Content** - The file content is compared using the current *diff algorithm*. This option is applied for a pair of files only if that file type is associated with a built-in editor type (either associated by default or associated by the user when the user is prompted to do that on opening a file of that type for the first time).
  - **Binary Compare** - The files are compared at byte level.
  - **Timestamp (last modified date / time)** - The files are compared only by their last modified timestamp.

- **Look in archives** - If checked, *archives known by Oxygen XML Diff* are considered directories and their content is compared just like regular files.
- **Navigation** - This options control the behaviour of the differences traversal actions (**Go to previous modification**, **Go to next modification**) when the first or last difference in a file is reached:

- **Ask what to do next** - A dialog is displayed asking you to confirm that you want the application to display modifications from the previous or next file.
- **Go to the next/previous file** - The application opens the next or previous file without waiting for your confirmation.
- **Do nothing** - No further action is taken.

Appearance

The **Directories Comparison / Appearance** preferences panel is opened from menu **Options** > **Preferences** > **Diff** > **Directories Comparison** > **Appearance** .
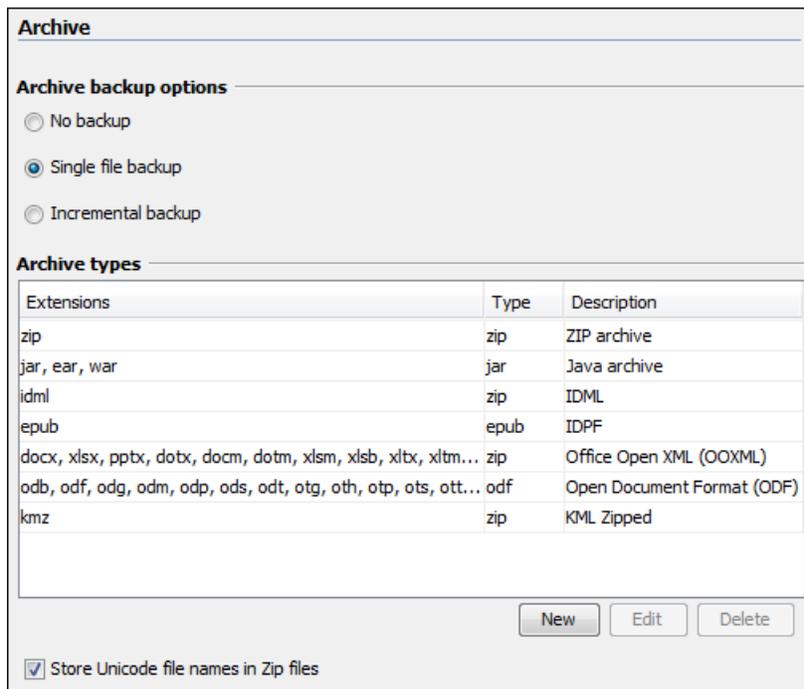

Figure 19: The Diff Appearance Preferences Panel

- **Added/Deleted** - Color used for marking added or deleted files and folders.
- **Modified** - Color used for marking modified files.

Archive

The **Archive** preferences panel is opened from menu **Options** > **Preferences** > **Archive** .

Figure 20: The Archive Preferences Panel

The following options are available in the **Archive** preferences panel:

- One of the following options is the default for backup actions in the **Archive Backup** dialog:

  - **No backup** - No backups are made.
  - **Single file backup** - When you modify an archive, its content is backed up under the name `originalArchiveFileName.bak`. You can find the backup file in the same folder as the original archive.

👉 **Note:** The backup is done only once per application session for each archive open in the **Archive Browser** view.

- **Incremental backup** - When you modify an archive, its content is backed up under the name `originalArchiveFileName.bakNumber`. *Number* is an incremental integer, indicating how many backups were made so far. You can find the backup file in the same folder as the original archive.

  👉 **Note:** The backup is done only once per application session for each archive open in the **Archive Browser** view.

- **Archive types** - This table contains all known archive extensions mapped to known archive formats. Each row maps a list of extensions to an archive type supported in Oxygen. You can edit an existing mapping or create a new one by associating your own list of extensions to an archive format.
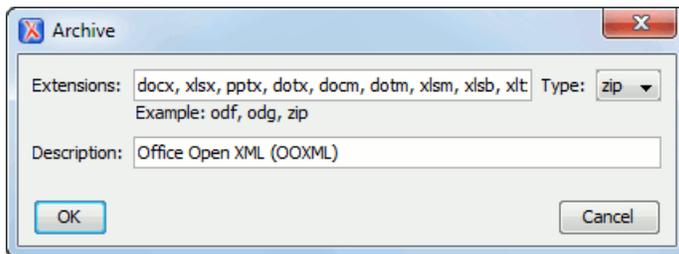

Figure 21: Edit Archive Extension Mappings

👉 **Important:** You have to restart Oxygen after removing an extension from the table in order for that extension to not be recognised anymore as an archive extension.

- **Store Unicode file names in Zip archives** - Use this option when you archive files that contain international (that is, non-English) characters in file names or file comments. If an archive is modified in any way with this option turned on, UTF-8 characters are used in the names of all files in the archive.

Menu Shortcut Keys

The **Menu Shortcut Keys** preferences panel is opened from menu **Options** > **Preferences** > **Menu Shortcut Keys** . It allows configuring in one place the keyboard shortcuts available for the menu items on the menus of Oxygen XML Diff. The current shortcuts assigned to menu items are displayed in the following table.

You can find an operation in the table using the filter field that can search by the operation's description, category or shortcut key:
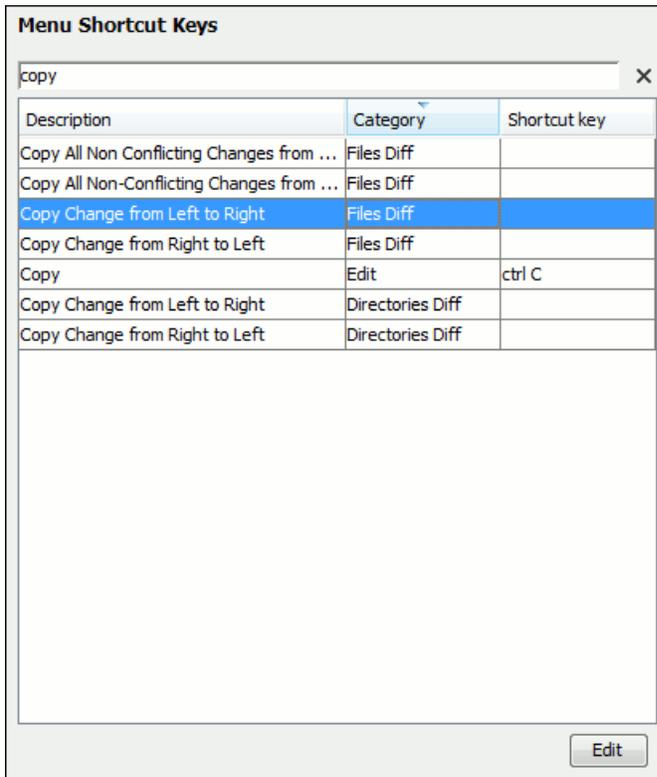
Figure 22: The Menu Shortcut Keys Preferences Panel

- **Description** - A short description of the menu item operation.
- **Category** - The shortcuts are classified in categories for easier management. For example the **Cut** operation for the source view is distinguished from the tree view one by assigning it to a separate category.
- **Shortcut key** - The keyboard shortcut that launches the operation. Double-clicking on a table row or pressing the **Edit** button allows the user to register a new shortcut for the operation displayed on that row.
- **'Home' and 'End' keys are applied at line level** - Option available only on Mac OS X that controls the way the HOME and END keys are interpreted. If checked, the default behaviour of the Mac OS X HOME and END keys will be overridden and the caret will move only on the current line. The default on the Mac is to move the caret to the beginning or end of the document.

File Types

Oxygen XML Diff offers editing support for a wide variety of file types, but users are free to add new file extensions and associate them with the editor type which fits better.

The **File Types** preferences panel is opened from menu **Options** > **Preferences** > **File Types** .
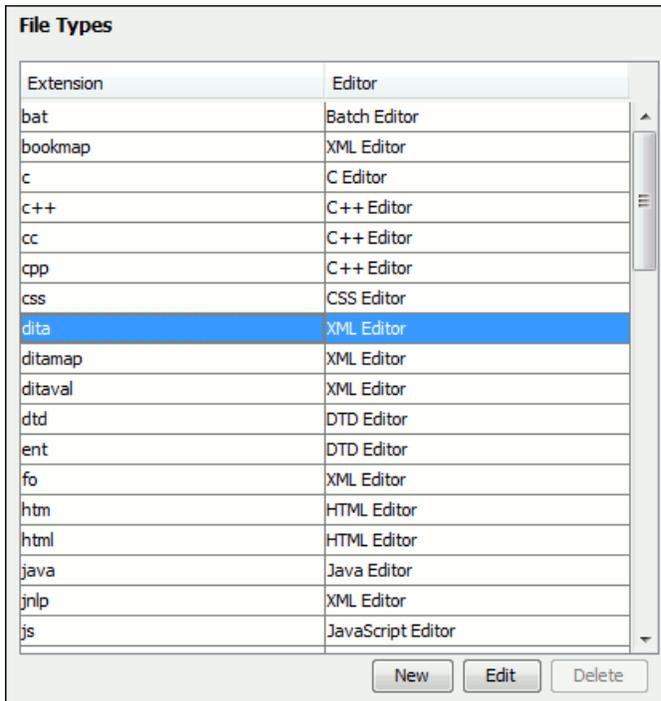
Figure 23: The File Types preferences panel

The table columns contain the following data:

- **Extension** - The extensions of the files that will be associated with an editor type.
- **Editor** - The type of editor which the extensions will be associated with. Some editors provide easy access to frequent operations via toolbars (e.g. XML editor, XSL editor, DTD editor) while others provide just a syntax highlight scheme (e.g. Java editor, SQL editor, Shell editor, etc.).

    If the editor set here is not one of the XML editors (XML editor, XSL editor, XSD editor, RNG editor, WSDL editor) then the encoding set in *the preference **Encoding for non XML files*** is used for opening and saving a file of this type. This is necessary because in case of XML files the encoding is usually declared at the beginning of the XML file in a special declaration or it assumes the default value UTF-8 but in case of non XML files there is no standard mechanism for declaring the encoding of the file.

HTTP(S) / (S)FTP / Proxy Configuration

Some networks use proxy servers to provide Internet services to LAN clients. Clients behind the proxy may therefore, only connect to the Internet via the proxy service. If you are not sure whether your computer is required to use a proxy server to connect to the Internet or you don't know the proxy parameters, please consult your network administrator.

You can open the HTTP(S) / (S)FTP / Proxy Configuration panel from menu **Options** > **Preferences** > **HTTP(S) / (S)FTP / Proxy Configuration** .

The HTTP(S) / (S)FTP / Proxy Configuration Preferences Panel

Complete the dialog as follows:

- **Direct connection** - If checked, the HTTP(S) connections go directly to the target host without going through a proxy server.
- **Use system settings** - If checked, the HTTP(S) connections go through the proxy server set in the operating system. For example on Windows the proxy settings are the ones used by Internet Explorer.

   ⚠ **Attention:** The system settings for the proxy cannot be read correctly from the operating system on some Linux systems. The system settings option should work properly on Gnome based Linux systems but it does not work on KDE based ones as *the Java virtual machine does not offer the necessary support yet*.

- **Manual proxy configuration** - If checked, the HTTP(S) connections go through the proxy server specified in the fields **Address** and **Port** of the section **Web Proxy (HTTP / HTTPS)**. Also this section specifies the hosts to which the connections must not go through a proxy server in the field **No proxy for**.
- **Web Proxy authentication (HTTP / HTTPS)** - In this section you set the user and password necessary for authentication with the proxy server. The user and password set here will be used both in case of manual proxy configuration and in case of system settings selected above.
- **SOCKS Proxy** - In this section you set host and port of a SOCKS proxy through which all the connections must pass. If the **Address** field is empty the connections will use no SOCKS proxy.
- **Lock WebDAV files on open** - If checked, the files opened through WebDAV are locked on the server so that they cannot be edited by other users while the lock placed by the current user still exists on the server.

Advanced HTTP Settings

The **Advanced HTTP Settings** preferences panel is opened from menu **Options** > **Preferences** > **HTTP(S) / (S)FTP / Proxy Configuration** > **Advanced HTTP Settings** and offers the following preferences:
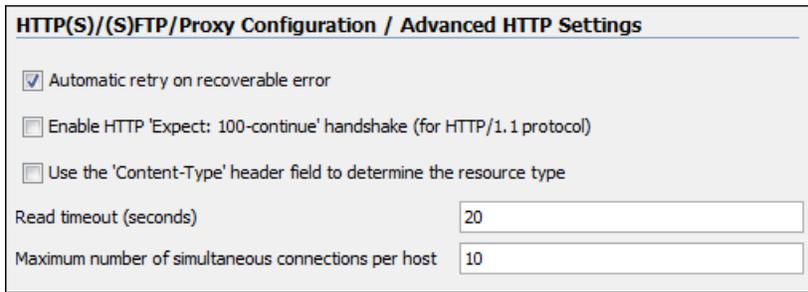
Figure 24: The Advanced HTTP Settings Preferences Panel

- **Automatic retry on recoverable error** - If enabled, if an HTTP error occurs when Oxygen communicates with a server via HTTP, for example sending / receiving a SOAP request / response to / from a Web services server, and the error is recoverable, Oxygen tries to send again the request to the server.
- **Enable HTTP 'Expect: 100-continue ' handshake for HTTP/1.1 protocol** - Activates *Expect: 100-Continue* handshake. The purpose of the *Expect: 100-Continue* handshake is to allow a client that is sending a request message with a request body to determine if the origin server is willing to accept the request (based on the request headers) before the client sends the request body. The use of the *Expect: 100-continue* handshake can result in noticeable performance improvement when working with databases. The *Expect: 100-continue* handshake should be used with caution, as it may cause problems with HTTP servers and proxies that do not support the HTTP/1.1 protocol.
- **Use the 'Content-Type' header field to determine the content type** - When checked, Oxygen tries to determine a resource type using the **Content-Type** header field. This header indicates the *Internet media type* of the message content, consisting of a type and subtype, for example:

```
Content-Type: text/xml
```

When unchecked, the resource type is determined by analyzing its extension. For example, a file ending in *.xml* is considered to be an XML file.

- **Read Timeout (seconds)** - The period in seconds after which the application considers that an HTTP server is unreachable if it does not receive any response to a request sent to that server.

  👉 **Tip:** If the **Automatic retry on recoverable error** option is checked, the HTTP client tries to establish the connection twice so the timeout will be double the timeout specified here.

- **Maximum number of simultaneous connections per host** - Defines the maximum number of simultaneous connections established by the application with a distinct host. Servers might consider multiple connections opened from the same source to be a **Denial of Service** attack. You can avoid that by lowering the value of this option.

  👉 **Note:** This option accepts a minimum value of 5.

(S)FTP

The **(S)FTP** preferences panel is opened from menu **Options** > **Preferences** > **HTTP(S) / (S)FTP / Proxy Configuration** > **(S)FTP** and offers the following preferences:
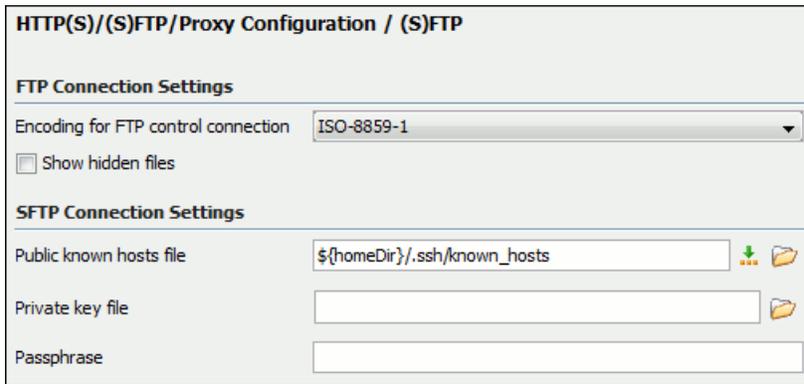
Figure 25: The (S)FTP Configuration Preferences Panel

- **Public known hosts file** - File containing the list of all SSH server host keys that you have determined are accurate. The default file location is `${homeDir}/.ssh/known_hosts`.
- **Encoding for FTP control connection** - The encoding used to communicate with FTP servers: either ISO-8859-1 or UTF-8. If the server supports the UTF-8 encoding Oxygen will use it for communication. Otherwise it will use ISO-8859-1.
- **Private key file** - The path to the file containing the private key used for the private key method of authentication of the secure FTP (SFTP) protocol.
- **Passphrase** - The passphrase used for the private key method of authentication of the secure FTP (SFTP) protocol.

Messages

The **Messages** preferences panel is opened from menu **Options** > **Preferences** > **Messages** and allows disabling the following warning messages which may appear in the application:
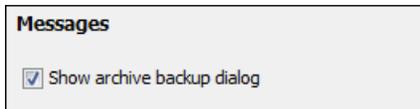
Figure 26: The Messages Preferences Panel

- **Show archive backup dialog** - If checked, a dialog will be shown allowing the user different backup options before modifying an archive's content.

Reset Global Options

To reset all global preferences to their default values you have to go to menu **Options** > **Reset Global Options** > **Reset Global Options** .