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1 **Altova DiffDog 2015**

*Altova DiffDog 2015 Professional Edition* is a powerful XML differencing application that intelligently finds differences between pairs of directories and between pairs of files.

DiffDog is a 32/64-bit Windows application that runs on Windows 8, Windows 7, Windows Vista, Windows XP, and Windows Server 2003/2008/2012. 64-bit support is available for the Enterprise and Professional editions.

Directories and files can be compared on different bases and according to a variety of options that you can change quickly in the GUI.

The GUI also helps you to quickly spot and analyze differences, edit your documents directly within the interface, merge differences, and instantly re-compare edited documents. The directory comparison functionality is linked to the file comparison functionality, thus enabling you to compare directories instantly and then to directly open and compare file pairs from within the directory comparison. DiffDog is available in 64-bit and 32-bit versions.

Last updated: 02-24-2015
2 Introduction

Altova® DiffDog® 2015 Professional Edition enables you to intelligently find differences between a pair of directories and between a pair of documents. Directories and files can be compared on different bases and according to a variety of options that you can change quickly in the GUI. In addition, DiffDog allows you to synchronize the content of two directories and copy or delete changed files with a mouse click.

This User Manual describes the interface and the various features of DiffDog, and provides guidance on how to use DiffDog. It consists of the following parts:

- An Introduction (this section), which provides an overview of DiffDog features and a description of the available comparison modes.
- An overview of the DiffDog interface.
- Guidance on how to use DiffDog. These sections provide an overview of how to use the file comparison and directory comparison features of DiffDog and also introduces you to various ways in which you can put these features to efficient use.
- Descriptions of how to navigate, merge, and export differences.
- A User Reference, which contains a description of all the toolbar icons, menu commands, as well as status and result messages of DiffDog.
- An overview of the command line options in DiffDog and how to use DiffDog in source control systems.

How to use this User Manual

We suggest that you read the sections titled Introduction as well as Comparing Files and Comparing Directories in order to get an overview of the features of DiffDog and to learn how to use DiffDog. These sections should give you all the information you need to get started using DiffDog. For subsequent reference, you should look up the User Reference.

The User Manual is indexed so you can find topics quickly. Additionally, the onscreen Help provides full text search (Help | Search): Keying in a search term in the onscreen Help will pop up a list of topics in which the search term appears. This documentation is also available online and in PDF format at the Altova website.
2.1 Product Features

DiffDog provides the following main features.

File Comparison

A file comparison in DiffDog is made in a File Comparison window. Files to be compared are opened in separate panes of a File Comparison window by browsing in Windows Explorer-type windows or from drop-down lists of previously opened files. DiffDog remembers file comparison pairs, and, when you select a file for comparison, can provide a list of files with which the selected file was previously compared.

Files can be compared as text or as structured XML. You can also compare binary files, however DiffDog cannot display the changes within binary files, it can only detect whether or not a pair of binary files is equal. A large range of navigation controls enables you to move easily among differences.

A wide range of comparison options are available, thus allowing you to define what aspects of files to compare and what aspects to ignore. Comparison options include settings for how whitespace and blank lines should be treated, whether case-sensitivity should be considered or not, whether differences should be indicated by line or character, whether certain node types, namespaces, and the order of attributes and/or elements should be ignored, whether entities should be resolved, etc.

If a file is modified outside DiffDog while it is open in a File Comparison window, DiffDog can watch for changes and reload the file if required.

Differences within files are indicated with background colors, and corresponding differences in the two panes are joined with lines, thus making visual analysis easier. Note that this does not apply to binary files! Vertical and horizontal scrolling of the two files in Comparison windows can be synchronized. This enables corresponding differences always to be displayed simultaneously.

File Editing and Merging in File Comparison Windows

After you have compared a file pair, files can be edited and saved directly within File Comparison windows and you can specify whether and how backups of files you edit should be kept. Comparisons can be done dynamically as you edit.

DiffDog provides high-level find-and-replace functionality, which also includes support for regular expressions. Differences between files can be merged, i.e. a different block in one file can be copied to replace the corresponding block in the other file. Editing and merging changes in either file can be undone an unlimited number of times.

Directory Comparison

A directory comparison in DiffDog is made in a Directory Comparison window. The directories to be compared are opened in separate panes of a Directory Comparison window. DiffDog provides a drop-down list of recently compared directories from which to select. Additionally, once a directory is selected to be opened in one pane, DiffDog can provide a list of directories with which that directory was previously compared; as a result previously compared pairs can quickly be opened in a Directory Comparison window. You can define filters to specify what file types to compare and what file types to ignore in a directory comparison.

Directories can be compared on the basis of the sizes and timestamps of files within them (Quick
Comparison Mode), or on the basis of the contents of files. The compared directories are displayed as expandable/collapsible trees and show details such as file size and last modification date. The view of the compared directories can be configured on the basis of the comparison results. For example, equal directories and files can be hidden, and only non-equal folders and files shown. Differences between directories and files are indicated with color-coding and easy-to-identify icons.

If a directory is modified outside DiffDog while it is open in a Directory Comparison window, DiffDog can watch for changes and reload the directory if required. Non-equal directories and files can be copied from one pane (directory) to the other. You can also synchronize the directories, that is, copy all missing or updated files from one directory to the other or delete unneeded files. File comparisons can be started directly from within a Directory Comparison window by double-clicking a file in a directory.

**Interface**

Multiple comparison windows (directory and file) can be opened in DiffDog at a time. Directory synchronization is done in a dialog box that can be opened from the Directory Comparison window after you have run a directory comparison, and which allows you to customize the default synchronization settings according to your needs.

The GUI has user-friendly menu layouts, intuitive toolbar icons, right-click quick menus, and a status bar that summarizes the results of comparisons. You can customize the look of Directory Comparison windows and File Comparison windows, including the background colors that are used to highlight differences. Files can be viewed in Text View or Altova's Grid View.

The Text View of documents in File Comparison windows provides line-numbering, source-folding (i.e. expandable and collapsible elements), indentation guides, bookmarking, syntax coloring, and whitespace and linefeed indicators. Syntax coloring can be adjusted according to file type.

Grid View displays structured documents, such as XML documents, in a tabular grid. This enables you to carry out large-scale changes easily (for example, inserting a column would insert the node represented by the column in all the nodes represented by the rows of the grid).

**Command Line**

DiffDog can be called from the command line. The application can be integrated with any source control system which provides the possibility to set up a path to the DiffDog executable.

**System Requirements**

2.2 **DiffDog Terminology**

Terms used in this documentation are defined below.

**Comparisons**: DiffDog enables you to make two kinds of comparisons: File Comparisons and Directory Comparisons (*see below*).

**File comparison**: A file comparison is the process of comparing two files. The term is also used to refer to the display of results of the comparison.

**File Comparison window**: Each file comparison is displayed in a File Comparison window. Multiple file comparisons can be open in DiffDog at a time, but only one may be active at any given time.

**Directory comparison**: A directory comparison is the process of comparing two directories. The term is also used to refer to the display of the results of the comparison.

**Directory Comparison window**: Each directory comparison is displayed in a Directory Comparison window. Multiple directory comparisons can be open in DiffDog at a time, but only one may be active at any given time.

**Directories and Folders**: These two terms are used interchangeably.

**Difference**: Two types of differences are distinguished: (1) differences between two compared files, and (2) differences between two compared directories.

(1) A difference between two files that are compared as text denotes a line of text in a file that is different from the corresponding line (if any) in the compared file. Note that the entire line is considered to be a single difference—even if the option to show differences within lines is selected. (This is significant when merging differences because the entire line will be merged; merges are not carried out at the character level.) A line of text is considered to be different from its corresponding line if one or more characters of text in it are different, if text is missing, or if a line is present for which there is no corresponding line in the compared file.

A difference between two files that are compared as XML denotes a node that is different from the corresponding node in the compared file. In general, nodes are considered different if the corresponding text values do not match. What constitutes a difference can be further refined in the **Comparison Options** dialog box.

(2) Differences between two compared directories are determined by comparing corresponding files within the two compared directories. In Quick Comparison Mode, the file sizes and timestamps of the corresponding files are compared. If one of these is different, the files are said to be different. Alternatively, corresponding files within directories are compared on the basis of their contents. Such comparisons are carried out as normal DiffDog file comparisons, and a difference causes the files to be flagged as different. Also see the definition of **Equal Files** and **Non-Equal Files**.

**Equal Files**: In directory comparisons, files that are identical according to the comparison options, are said to be equal.

**Non-equal Files**: In directory comparisons, there are two types of non-equal files: (1) a different file (*see definition of Difference above*), and (2) a file that is present in one directory but not in the other. Note that a non-equal file is not necessarily a different file.
**Merging**: Differences found in a file comparison can be merged, that is, copied from one file to the other. The block that is copied overwrites the corresponding block or space in the compared file. In file comparisons, merges are performed for the active (current) difference, and can be performed in either direction. In database comparisons, merges are performed either for all or for the selected items. Note that non-equal files in a Directory Comparison can also be copied from one pane (directory) to the other.

**Synchronizing**: Two directories that are different are synchronized by copying or deleting, respectively, all non-equal files and sub-folders from one directory to the other, or by deleting files that are present in one directory but not in the other. The default synchronization options are displayed in the **Synchronize directories** dialog box where they can be changed for the entire directory. Additionally, you can also edit the synchronization actions for individual files or sub-folders.
2.3 Comparison Mode

Files and directories can be compared in DiffDog in several ways. The comparison mode is indicated by the icons in the Comparison Mode toolbar. You can change the comparison mode either by clicking a different toolbar icon or by selecting the desired mode from the Diff and Merge menu.

The comparison mode you select is important. For example, identical files with different timestamps will be indicated as same in Text Comparison Mode but as different in Quick Comparison Mode. The available comparison modes are described below.

File comparison

When a File Comparison window is active, or when Quick Comparison Mode is toggled off in a Directory Comparison window, you can select from among the following four file comparison modes:

- **Text**: Compares files as text files; compares directories with contents treated as text files.
- **XML**: Compares files as XML files; compares directories with contents treated as XML files.
- **Binary**: Compares files as binary files; compares directories with contents treated as binary files.
- **File extension**: Compares files as text or XML according to settings for file extensions, which you can make in the File Types tab of the DiffDog Options dialog (Tools | DiffDog Options); compares directories with contents treated as text files, XML files, Microsoft Word files, or binary files according to file extension.

Directory comparison

When a Directory Comparison window is active, you can choose between Quick Comparison Mode and one of the four file comparison modes described in the File comparison section above.

- **Quick comparison**: Compares files within directories and sub-directories by size and date modified. This mode is either toggled on or off. When toggled off, the four file comparison modes become available. Selecting one of the file comparison modes causes directories to be compared in terms of their contents as text, XML, or binary files.

Current Comparison Mode

DiffDog uses the concept of the current comparison mode. This is the comparison mode that is current at any given time. For each type of comparison window (file and directory), a separate current comparison mode exists at all times. The current comparison mode for each type of comparison window is that comparison mode most recently selected by you in any of the open comparison windows of that type. When the application is started, the current comparison modes are the comparison modes that were current at the time the application was last closed.

Every File Comparison window and Directory Comparison window has a comparison mode.

When new comparison windows (file or directory) are opened, they have the current comparison mode for that type of comparison window (file or directory). Note that the current comparison mode for file comparisons applies to new directory comparison windows if Quick Comparison
Mode is not the current comparison mode for directory comparisons.

If you change the comparison mode of a comparison window, then that comparison mode applies to that particular comparison window. The comparison mode of other open comparison windows is not affected. However, the newly selected comparison mode becomes the current comparison mode and is applied to all comparison windows that are opened subsequently.
Chapter 3

The DiffDog Interface
3 The DiffDog Interface

The DiffDog interface displays multiple File Comparison windows and Directory Comparison windows within the DiffDog application window. The schematic diagram below illustrates the main parts of the interface. It is accompanied by a brief description of the various interface parts.

**Title Bar**
The Title Bar displays the application name (i.e., DiffDog) followed by the name of the active File Comparison window or Directory Comparison window. At the right-hand side are buttons to minimize, reduce or maximize, and close the DiffDog application window.

**Menu Bar and Toolbars**
The Menu Bar displays the menus. Each toolbar displays a group of icons for DiffDog commands. You can reposition the menu bar and toolbars by dragging their handles to the desired locations. At the right-hand side are buttons to minimize, reduce or maximize, and close the active comparison window.

**File/Directory Comparison Window**
Multiple File Comparison windows and/or Directory Comparison windows can be open at a time, but only one of them is active. The name of the active comparison window appears in the title bar and its name tab (at the bottom of the DiffDog application window) is highlighted and the name
itself is displayed in bold; the name tabs of the other open comparison windows are grayed out and the names are displayed in normal font. To make another comparison window the active comparison window, click its name tab.

Each comparison window (file/Microsoft Word or directory) has two panes of equal width arranged side-by-side and a status bar for that comparison window below the two panes. Above each pane is a file/directory selection area. This consists of a combo box, where you can enter the name of the file/directory to be compared, or select a previously opened file or directory from the drop-down menu. The buttons to the right of this area allow you to browse for files or directories, and to open files, save files and refresh files. The file and directory that is opened in each pane can therefore be opened independently of the file or directory in the other pane. Once a file/directory has been opened in both panes of a comparison window, a comparison can be made.

In Directory Comparison windows, directories are displayed as trees, the levels of which can be expanded/collapsed by double-clicking on a directory-level. Additionally, the width of individual columns can be adjusted by dragging borders to the desired width. In File Comparison windows, the view of the document can be customized using commands in the **View** and **Text View** menus.

**Comparison Window Status Bar**
The status bar of a comparison window indicates the status of that comparison. If files or directories have not been opened, this is indicated. If a comparison has been made, the type of comparison is reported along with the result of the comparison. The comparison window status bar should not be confused with the application status bar.

**Application Status Bar**
The application status bar appears at the bottom of the application window, and shows application-level information. The most useful of this information are the tooltips that are displayed here when you mouseover a toolbar icon. The application status bar should not be confused with the comparison window status bar. If you are using the 64-bit version of DiffDog, this is indicated in the status bar with the suffix (x64) after the application name. There is no suffix for the 32-bit version.
Chapter 4

Comparing Files
## 4 Comparing Files

Altova web site: [file diff tool](#)

File comparison in DiffDog is done in a File Comparison window, which provides several features for comparing, editing, and merging files. For well-formed, XML-based files, you have the additional option to change between Text View and Grid View.

To start a file comparison in DiffDog, you can either directly choose two files to compare or first open an empty File Comparison window and then select the files to be compared. Alternatively, you can also select two files in Windows Explorer, right-click and select **Compare with Altova DiffDog** from the context menu. This will open a new instance of DiffDog and display the selected files in a Comparison Window.

The comparison will start automatically unless you have deactivated the **Autostart Comparison** option in the **Diff and Merge** menu. You can change the comparison mode as desired and restart the comparison. In addition, to eliminate differences, DiffDog allows you to edit the content of the files directly in the comparison window and copy content from one pane to the other.

When comparing ZIP-conformant files and Office Open XML (OOXML) files in DiffDog, please note that these comparisons initially have to be started as a directory comparison since ZIP and OOXML files contain multiple files.

Altova web site: [ooxml diff](#), [zip diff](#)

### To open a file comparison window:

Do one of the following:

- Select the menu option **File | Open** or press **Ctrl+O** and select **Compare files** in the **Open comparison** dialog box. Then choose the files to be compared in the Content group box and click **OK**. A new File Comparison window containing the selected files is open.

<table>
<thead>
<tr>
<th>File 1</th>
<th>File 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;?xml version=&quot;1.0&quot; encoding=&quot;UTF-8&quot;?&gt;</code></td>
<td><code>&lt;?xml version=&quot;1.0&quot; encoding=&quot;UTF-8&quot;?&gt;</code></td>
</tr>
<tr>
<td><code>&lt;import name=&quot;edu\_Course&quot; query=&quot;SELECT * FROM [Course]&quot;/&gt;</code></td>
<td><code>&lt;import name=&quot;Course&quot; query=&quot;SELECT [id], [name], [descr], [depid], [teachendid], [upperlimit] FROM [Course]&quot;/&gt;</code></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><code>&lt;!-- MS Access --&gt;</code></td>
<td><code>&lt;!-- MS Access --&gt;</code></td>
</tr>
<tr>
<td><code>&lt;Column name:id type:INT--&gt;</code></td>
<td><code>&lt;Column name:id type:INT--&gt;</code></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td><code>Column name:name</code></td>
<td><code>Column name:name</code></td>
</tr>
<tr>
<td>type:TEXT length:50 maxlen:255--&gt;</td>
<td>type:TEXT length:50 maxlen:255--&gt;</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td><code>&lt;Column name:descr</code></td>
<td><code>&lt;Column name:descr</code></td>
</tr>
<tr>
<td>type:TEXT length:50 maxlen:255--&gt;</td>
<td>type:TEXT length:50 maxlen:255--&gt;</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><code>&lt;Column name:depid</code></td>
<td><code>&lt;Column name:depid</code></td>
</tr>
<tr>
<td>type:INT--&gt;</td>
<td>type:INT--&gt;</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td><code>&lt;Column name:teachendid</code></td>
<td><code>&lt;Column name:teachendid</code></td>
</tr>
</tbody>
</table>

Status: Text Comparison only. Result: 3 differences 5 in left pane only 2 in right pane only
opened.

If you choose a ZIP-conformant or OOXML file, a dialog box is displayed and you can choose to open a directory comparison instead.

- Select the menu option **File | Compare Files** or click the **Compare files** icon in the Standard toolbar. An empty File Comparison window is opened.
4.1 Opening a File Comparison Window

When opening a new File Comparison window, the file comparison is given a name of the form File compare X, where X is an integer indicating that file comparison's position in the sequence of file comparisons opened in the current DiffDog session. This name appears in a tab at the bottom of the window.

Note that the Compare Files command opens only the File Comparison window; it does not open any file within the window. The two files to be compared must be opened subsequently in the panes of the comparison window, one in each pane.

To open an empty File Comparison window:

- Select the menu option File | Compare Files or click the Compare files button in the Standard toolbar.
4.2 Selecting Files for Comparison

Files can be selected for comparison in various ways. You can open the files in a new File Comparison window, re-open a previous comparison, or change the files in the currently open File Comparison window. In addition, you can also drag and drop files from the Windows Explorer into the respective panes of a File Comparison window or select a file pair in Windows Explorer and use a context menu option to start a comparison in DiffDog.

To open files in a new File Comparison window:

1. Select the menu option File | Open or press Ctrl+O.
2. In the Open Comparison dialog box, select Compare files in the Mode group box.
3. In the Content group box, for the first and the second file, do one of the following:
   - Enter the path of the files.
   - Select previously compared files from the drop-down list.
   - Click the Browse... button. In the Open dialog that pops up, you can either select a file from the file system (click Open after selecting it) or you can select a file via its URL. To access the Open URL dialog, click Switch to URL. Accessing a file via a URL enables you to open files via FTP and HTTP/HTTPS. How to select files via URLs is explained below.
4. Click OK. The selected files are opened in a new File Comparison window.

To select files in the active File Comparison window:

1. In the left pane of an existing File Comparison window, do one of the following:
   - Click the Open icon and select a file in the Windows Open dialog box.
   - Enter the full path to a file and click the Apply button.
   - Drag a file from the Windows Explorer into the pane.
   - Select a previously compared file from the drop-down list.
2. Repeat any of the steps described in step 1 for the right pane.

To start a file comparison from Windows Explorer:

1. Select two files in Windows Explorer.
2. Right-click and choose Compare with Altova DiffDog from the context menu.
   A new instance to DiffDog is opened, the selected files are displayed in a File Comparison window, and the comparison is started automatically.
Selecting files via URLs

To select a file via a URL, do the following:

1. Click the **Switch to URL** button. This switches to the URL mode of the Open dialog (screenshot below).

   ![Open dialog](image)

   - File URL:
   - File load
     - Use cache/proxy
     - Reload
   - Identification:
     - User: MyDocs
     - Password: [enter password]
     - Remember password between application starts
   - Available files:
     - Server URL: [HTTP://example.com]
     - This is a Microsoft® SharePoint® Server

2. Enter the URL of the file you want to access in the **Server URL** field (screenshot above). If the server is a Microsoft® SharePoint® Server, check the **Microsoft® SharePoint® Server** check box. See the Microsoft® SharePoint® Server Notes below for further information about working with files on this type of server.

3. If the server is password protected, enter your User-ID and password in the **User** and **Password** fields.

4. Click **Browse** to view and navigate the directory structure of the server.

5. In the folder tree, browse for the file you want to load and click it.
The file URL appears in the File URL field (screenshot above). The **Open** button only becomes active at this point.

6. Click the **Open** button to load the file into DiffDog.

**Note:** The Browse function is only available on servers which support WebDAV and on Microsoft SharePoint Servers. The supported protocols are FTP, HTTP, and HTTPS.

**Note:** To give you more control over the loading process, you can choose to load the file through the local cache or a proxy server (which considerably speeds up the process if the file has been loaded before). Alternatively, you may want to reload the file if you are working, say, with an electronic publishing or database system; select the **Reload** option in this case.

**Microsoft® SharePoint® Server Notes**

Note the following points about files on Microsoft® SharePoint® Servers:

- In the directory structure that appears in the Available Files pane (screenshot below), file icons have symbols that indicate the check-in/check-out status of files.
Right-clicking a file pops up a context menu containing commands available for that file (screenshot above).

- The various file icons are shown below:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Check-in available" /></td>
<td>Checked in. Available for check-out.</td>
</tr>
<tr>
<td><img src="image" alt="Check-out available" /></td>
<td>Checked out by another user. Not available for check-out.</td>
</tr>
<tr>
<td><img src="image" alt="Check-out locally available" /></td>
<td>Checked out locally. Can be edited and checked-in.</td>
</tr>
</tbody>
</table>

- After you check out a file, you can carry out DiffDog differencing operations on it.
- You can check-in the file via the context menu in the Open URL dialog (see screenshot above).
- When a file is checked out by another user, it is not available for check out.
- When a file is checked out locally by you, you can undo the check-out with the Undo Check-Out command in the context menu (see screenshot above). This has the effect of returning the file to the server.
- If you check out a file in one Altova application, you cannot check it out in another Altova application. The file is considered to be already checked out to you. The available commands at this point in any Altova application supporting Microsoft® SharePoint® Server will be: **Check In** and **Undo Check Out**.
4.3 Modifying the File Comparison Options

The options of a file comparison can be changed in the Comparison Options dialog box. This dialog box provides separate tabs for text and XML comparison. In addition, the Diff and Merge menu offers several toggle commands which can be switched on or off via the menu:

- Show Options Before Comparison
- Autostart Comparison
- Compare while Editing
- Support Recently Compared Pairs

General options for the comparison of files are furthermore available in the File comparison tab of the DiffDog Options dialog box.

To modify the file comparison options:

Do one or more of the following:

- Select the menu option Tools | Comparison Options... and change the settings in the Text and XML tabs as required.
- Activate or deactivate the desired comparison management options in the Diff and Merge menu.

4.3.1 Options for Text Comparison

The Text tab of the Comparison Options dialog box displays the options that are used for text comparison.

![Comparison Options dialog box](image)

View results

By activating the Show differences within lines check box, you can display the differences on character level. Note that the Compare as Text button must be active in order to display differences within lines.
Comparing Files

Modifying the File Comparison Options

If the check box is deactivated, differences are displayed only on line level, that is, character level differences are not highlighted. Only the line, as a whole, is indicated as being different.

```
<Covering>Leather</Covering>  7  <Covering>Leather</Covering>
<SatNav>Saqua</SatNav>        8  <SatNav>Global Inc.</SatNav>
```

### Whitespace

Whitespace characters are space, tab, carriage return, and line feed. The three options here compare files with whitespace unchanged; with whitespace normalized (i.e., all consecutive whitespace characters are reduced to one whitespace character); and with all whitespace stripped (i.e., not considered for comparison).

### Case sensitivity

Activate the *Ignore case* check box if upper and lower casing should be ignored when checking for differences.

### Lines

Here you define whether blank lines should be ignored.

#### 4.3.2 Options for XML Comparison

The XML tab of the **Comparison Options** dialog box displays the options that are used for XML-based comparison.

**View results**

The *Detailed differencing* option enables you to show differences in detail or reduce the number of differences (so that navigation is faster). With detailed differencing toggled off,
consecutive nodes that are different are displayed as a single node. This applies also to consecutive nodes on different hierarchical levels, such as an element node and its child attribute node. Please note that detailed differencing must be checked to enable merging and exporting differences.

**Whitespace**

Whitespace characters are space, tab, carriage return, and line feed. The three options here compare files with whitespace unchanged; with whitespace normalized (i.e., all consecutive whitespace characters are reduced to one whitespace character); and with all whitespace stripped (i.e., not considered for comparison).

**Namespace/Prefix**

These are options for ignoring namespaces and prefixes when searching for differences.

**Entities**

If Resolve entities is selected, then all entities in the document are resolved. Otherwise the files are compared with the entities as is.

**Text**

If Ignore text is selected, then differences in corresponding text nodes are not reported. The different first name is ignored since only the XML structure is compared but not the text content of the tags.

| <Person Manager="true" Degree="BA" Programer="false"> | <Person Manager="true" Programmer="false" Degree="BA"> |
| <First>Fred</First> | <First>Alfred</First> |

**Depth**

If Ignore node depth is selected, then the additional depth of any element (i.e., more levels of descendants) relative to the depth of the corresponding element in the compared file is ignored. This option must be unselected to enable merging and exporting differences.

**Case sensitivity**

If the Ignore case check box is checked, then case is ignored, and you have the option of ignoring or not ignoring case in node names.

**Order**

If Ignore order of child nodes is selected, then the relative position of the child nodes of an element is ignored, provided that the individual nodes within a node level have unique node names. As long as an element node with the same name exists in each of the two sets of sibling nodes, the two sets are considered to be equal. In the following example, the order of the <Name> and <FirstName> nodes is different in the left and right file and is marked as different if the Ignore order of child nodes option is deactivated.

| 2 | <Person Manager="true" Developer="false"> | 2 | <Person Developer="false" Manager="true"> |
| 3 | <Name>Smith</Name> | 3 | <FirstName>John</FirstName> |
| 4 | <FirstName>John</FirstName> | 4 | <Name>Smith</Name> |
| 5 | <Phone type="office">+3375456</Phone> | 5 | <Phone type="office">+3375456</Phone> |

Checking the Ignore order of child nodes option will ignore this difference in the comparison window.
Note, however, that DiffDog can ignore the order of child nodes only if the node names on a certain node level are unique. If several occurrences of a node appear, e.g. with different attributes assigned, a node, if appearing in a different order, will always be considered unequal to an element with the same name and attribute in the compared sibling set—even if the Ignore order of child nodes is selected. If we add different attributes to the `<Phone>` node of our example, then the difference in order of the three occurrences of the `<Phone>` node will appear in the comparison window although the Ignore order of child nodes check box is selected.

In order to ignore the order of several occurrences of child nodes that have different attributes assigned, you can add these attributes as comparison criteria. DiffDog provides two options: (i) add all attributes and (ii) define a list of specific attributes, which in our example will both result in the `<Phone>` nodes being displayed as equal. However, if you select the Specific attributes option, you will first have to define an attribute group accordingly.

It may happen that several occurrences of child nodes appear that have also the same attribute assigned (e.g. a person with more than one mobile phone number in our example). In the screenshot below the All attributes radio button has been selected, however differences are still reported since two mobile phone numbers are listed.

In DiffDog you can cope also with this scenario by activating the Add element text as comparison criteria check box. If element text, attribute value, and node name are identical and only the order of the nodes is different, no differences will be reported.

Note that, if the Ignore Order option is specified, then the merge functionality also ignores the order. If Ignore order of child nodes is unselected, then differences in order are represented as differences.
The option of ignoring the order of attributes is also available, and applies to the order of attributes of a single element. In the above example, the Ignore order of attributes option, has been checked, and DiffDog therefore has ignored the order of the attributes of the `<Person>` node. Note that the order of attributes will always be ignored, if the Ignore order or child nodes check box is activated. In the screenshot below, both the Ignore order of child nodes and the Ignore order of attributes check box are deactivated.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td><code>&lt;Person Manager=&quot;true&quot; Developer=&quot;false&quot;&gt;</code></td>
<td>2</td>
<td><code>&lt;Person Developer=&quot;false&quot; Manager=&quot;true&quot;&gt;</code></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><code>&lt;Name&gt;Smith&lt;/Name&gt;</code></td>
<td>3</td>
<td><code>&lt;FirstName&gt;John&lt;/FirstName&gt;</code></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td><code>&lt;FirstName&gt;John&lt;/FirstName&gt;</code></td>
<td>4</td>
<td><code>&lt;Name&gt;Smith&lt;/Name&gt;</code></td>
<td></td>
</tr>
</tbody>
</table>

**Ignore node types**
Check the node types that will not be compared in the Compare session. Node types that may be ignored are Attributes, CDATA, Comments, Processing Instructions, DOCTYPE statements, and XML declarations.

**Filter out specific elements/attributes**
Enables you to define filters to set what elements and/or attributes should not be considered for comparison. A filter is defined at the application level, which means that once a filter is defined, it is available for every comparison. More than one filter can be defined, and, for every comparison, the filter to be used is selected in the drop-down list in the Filter out specific elements/attributes group box.

**Defining Groups of Attributes**
If you choose the Specific attributes radio button in the Order group box, the Define groups of attributes as comparison criteria dialog box opens where you can create different lists of attributes that shall be used as comparison criteria.

**Define groups of attributes as comparison criteria**

Attributes to be considered as comparison criteria are organized in attribute groups, that is, you
first have to define an attribute group and then add the relevant attributes to the group. You can select the attribute group to be used from the Specific attributes drop-down list in the **Comparison Options** dialog box.

**To define groups of attributes to be considered as comparison criteria:**

1. Select the menu option **Tools | Comparison Options...** or click the **Comparison Options** button in the Diff and Merge toolbar, and change to the **XML** tab.
2. In the Order group box, activate the radio button **Specific attributes** and click the **Browse** button next to the drop-down list to open the **Define groups of attributes as comparison criteria** dialog box.
3. In the Attribute groups group box, click the respective icon to append or insert a group to the list of groups and give it a name. Always define a group before specifying attributes. Do not enter the attributes in the Attribute groups group box.
4. With the attribute group selected, in the Add attributes as comparison group box, click the respective icon to append or insert elements to the list and enter the name of the attribute that should be considered. Add an extra list element for each attribute.
5. When done with defining attribute groups, click **OK**. The defined attribute groups are now available in the combo box in the **Comparison Options** dialog box.

**Defining a Filter to Ignore Elements or Attributes for Comparison**

Filters are defined by clicking the **Define Filters** button in the **Comparison Options** dialog box, which pops up the **Define Filters** dialog box.
In the screenshot above, two filters (Filter-1 and Filter-2) have been defined. Filter-1 specifies that the elements email and name, and the attributes href and name, are to be ignored for comparison.

**To create a filter for ignoring element/attributes for comparison:**

1. Select the menu option Tools | Comparison Options... or click the Comparison Options button in the Diff and Merge toolbar, and change to the XML tab.

2. In the Filter out specific elements/attributes group box, click the Define Filters button to open the Define filters dialog box.

3. In the Filters group box, click the respective icon to append or insert a filter to the list of filters and give it a name.

4. With the filter selected, in the Ignore Elements/Attributes group box, click the respective icon to append or insert elements and filters to the list. The Ele check box is activated by default.

5. Deactivate the Ele check box and/or activate the Att check box, if required, and enter a name for the element/attribute.

6. Optionally, repeat steps 4 and 5 for additional elements/attributes.

7. When done with defining a filter, click OK. The defined filters are now available in the combo box in the Comparison Options dialog box.
4.4 Running a File Comparison

When the two documents to be compared are loaded into the comparison window, a comparison is automatically carried out if the Autostart Comparison command is toggled on (which is the default setting). In addition, comparisons can be explicitly started any number of times with the Start Comparison command.

When editing documents, they are compared dynamically as you type if the Compare while Editing command is toggled on.

You can run file comparisons using all three of the methods listed above; these methods are not mutually exclusive. If the Show Options Before Comparison command is toggled on, then the Comparison Options dialog box is displayed each time before the comparison is run (except when it is run dynamically by DiffDog while you edit). This is useful if you wish to run comparisons with different options.
4.5 Displaying Differences in Files

After you start a comparison, the differences between the two files are displayed as blocks of highlighted text and the results of the comparison are reported in the Comparison Window Status Bar. Normally, Text View is used for displaying differences, however if you compare well-formed files, you can also switch to Grid View.

4.5.1 Text View

Text View is the standard display mode for any file pair being compared in DiffDog. Notice that the corresponding differences in the two documents are linked for easier identification and analysis. When synchronized scrolling is toggled on, both documents scroll so that corresponding differences are always in view simultaneously.

The current difference is highlighted in a different color than the other differences. In the screenshot above the current difference is displayed in a darker green. These colors can be changed in the DiffDog Options. It is important to know which difference is the current difference because merging is always done for the current difference only. You can navigate among the differences with the navigation commands that are available in the Diff and Merge menu and as toolbar icons.

Displaying Text

Text View has visual features to make the display and editing of large sections of text easier. Some very useful features are: (i) Line Numbers, (ii) Bookmarks, (iii) Source Folding (expanding and collapsing the display of nodes), (iv) Indentation Guides, and (v) End-of-Line and Whitespace Markers. These commands are available in the Text View Settings dialog box (first screenshot below) and the Text toolbar (second screenshot below).

The Text View Settings dialog box is accessed via the Text View | Text View Settings command or the Text View Settings button in the Text toolbar. Settings in the Text View Settings dialog box apply to the entire application—not only to the active document.
Comparing Files Displaying Differences in Files

Other useful features are the Zooming and Go-to-Line/Character features.

**Line numbers**
Line numbers are displayed in the line numbers margin, which can be toggled on and off in the Text View Settings dialog box. When a section of text is collapsed, the line numbers of the collapsed text are also hidden. A related command is the Go-to-Line/Character command.

**Bookmarks**
Lines in the document can be separately bookmarked for quick reference and access. If the bookmarks margin is toggled on, bookmarks are displayed in the bookmarks margin; otherwise, bookmarked lines are highlighted in cyan.

The bookmarks margin can be toggled on or off in the Text View Settings dialog box.

You can edit and navigate bookmarks using commands in the Text View menu and Text toolbar. Bookmarks can be inserted with the Text View | Insert/Remove Bookmark command, enabling you to mark a line in the document for reference. A bookmark can be removed by selecting the bookmarked line and then selecting the Text View | Insert/Remove Bookmark command. To navigate through the bookmarks in a document, use the Text View | Next Bookmark and Text View | Previous Bookmark commands. These bookmark commands are also available as icons in the Text toolbar.

**Source folding**
Source folding refers to the ability to expand and collapse nodes and is displayed in the source folding margin. The margin can be toggled on and off in the Text View Settings dialog box. In the screenshot below, notice how the line numbering at Line 5 has been collapsed together with the
Displaying Differences in Files

Comparing Files

4.5.2 Grid View

Grid View can be used to display files that are well-formed, typically XML files. In Grid View, each node is displayed as a row in a grid. This enables you to see the hierarchy in a graphical view, to navigate through the document more easily, and to manipulate the structure of the document.
using graphical mechanisms such as drag-and-drop.

Note the following points, all of which can be seen in the screenshot above:

- Node names are displayed in bold, their contents in normal font.
- Different node types are indicated with different symbols. For example, attributes are indicated with a red = symbol, elements with red angular brackets.
- Nodes that are different from one document to the other are highlighted, with the current difference being highlighted in a different color.
- Corresponding differences in the two documents are joined with a line.

Nodes (rows) can be expanded and collapsed by clicking on the upward arrow button at the extreme left of a grid row. To edit a node name or node contents, double-click the location where you wish to insert the cursor.

Grid rows can be dragged to new locations by selecting the row and dragging it to the desired location. Multiple nodes that are contiguously located can be selected for this operation. Individual nodes can also be moved left or moved right using the respective Grid View menu commands (or their toolbar icons). This changes the position of the node in the document hierarchy. Graphical manipulation of structure and contents is further enhanced in Table View, which is another mode of Grid View.

Columns can be resized by dragging their borders left or right.
Displaying Repeating Elements as Table

In normal Grid View, each node has a grid row to itself, as shown in the screenshot below.

```
<table>
<thead>
<tr>
<th>name</th>
<th>pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>290</td>
</tr>
<tr>
<td>UK</td>
<td>80</td>
</tr>
<tr>
<td>FRA</td>
<td>82</td>
</tr>
<tr>
<td>GER</td>
<td>88</td>
</tr>
<tr>
<td>AUT</td>
<td>9</td>
</tr>
</tbody>
</table>
```

When an element occurs multiple times at the same hierarchical level (as is the case with the `member` element in the screenshot above), it can be displayed as a table (screenshot below) in which each occurrence of the element created as a table is represented as a row. The table element's child nodes (attributes, elements, etc) are displayed as columns of the table.

```
<table>
<thead>
<tr>
<th>name</th>
<th>pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>290</td>
</tr>
<tr>
<td>UK</td>
<td>80</td>
</tr>
<tr>
<td>FRA</td>
<td>82</td>
</tr>
<tr>
<td>GER</td>
<td>88</td>
</tr>
<tr>
<td>AUT</td>
<td>9</td>
</tr>
</tbody>
</table>
```

To display multiple elements as table:
1. Select one of the occurrences of the element to be created as a table.
2. Select the menu option Grid View | Table | Display as Table or click the Display as Table button in the Grid toolbar.

To switch from Table View to the normal Grid View:
- Select the table or any of its rows (not a column or cell), and click the Display as Table toolbar icon. The table element switches to normal Grid View.

Editing the table

The structure and contents of the table can also be edited using table mechanisms. For example, rows (new table element occurrences) and columns (new child nodes for all table element occurrences) can be inserted into the table, and the table can be sorted on one of its columns.
In the screenshot above, the table (for member elements) is sorted on the pop column. (This was done by selecting the pop column and then clicking the command Grid View | Table | Ascending Sort.)
4.6 Editing Files

After you have run a comparison and investigated the differences of the two files, you can edit the content of the files directly in DiffDog. The available editing features differ for text-based and XML-based files.

Changes to the content of both text-based and XML-based files are made in Text View. When comparing well-formed XML-based files, DiffDog's Grid View allows you to also change the document structure of the files.

Reloading files

You can always undo all changes you have made to a document since you last saved it, and reload the file into DiffDog. A warning message will be displayed if you are about to lose changes.

To reload a file into DiffDog:

1. In the respective pane of a comparison window, click the Reload button.
2. If the file has changed since you last saved it, a warning message is displayed.
3. Click Yes if you want to reload, or No if you want to cancel the operation.

4.6.1 Changing the Content

In Text View, DiffDog provides syntax coloring and other visual aids such as line numbering, indentation, and bookmarking, as well as powerful Find and Replace functionality that can help with editing. A history of changes is maintained for each file separately, and unlimited Undos are allowed.

If you have the Compare while Editing option activated in the Diff and Merge menu, the comparison of the files is refreshed continuously as you type.

To edit files:

- Type in your changes in the respective pane of the File Comparison window.

To undo changes in a file:

- Place the cursor in the file and click Edit | Undo or press Ctrl+Z.
4.6.2 Changing the Structure

The Grid View shows the hierarchical structure of well-formed, XML-based documents through a set of nested containers, that can be easily expanded and collapsed to get a clear picture of the document's structure. In Grid View contents and structure can both be easily manipulated.

You can insert or append new elements or attributes, edit the content of the file, or drag the individual elements to a different location in the document.
4.7 Finding and Replacing Text

DiffDog offers powerful Find and Replace functionality that can help with editing. The Find and Replace options are different for Text View and Grid View. Please note that the scope of the Find, Find next, and Replace commands is the active document, and not both documents of a file comparison.

The Replace dialog box is similar to the respective Find dialog box displayed in Text View or Grid View, respectively, but additionally has a text box in which you enter the text string with which you wish to replace the found string.

To search for text in the active pane of a comparison window:

1. Place the cursor into the pane in which you want to search for text.
2. Select the menu option Edit | Find or press Ctrl+F.
3. Enter the text you want to search for into the Find what field.
4. In Text View, optionally activate the Regular expression check box and use the button to enter a regular expression.
5. To restrict your search, do one of the following:
   - In Text View, click the Advanced button and select the required XML node types to be searched in the Types group box.
   - In Grid View, select the required XML node type or DTD declarations to be searched in the Types group box.
6. Click Find Next.
7. In Text View, optionally click the Find Previous button to jump back to the previous occurrence of the search text.

To mark all occurrences of a text in Text View:

1. Select the menu option Edit | Find or press Ctrl+F to open the Find dialog box.
2. Enter the text you want to search for into the Find what field.
3. Click Mark All.
4. Use the Next Bookmark and Previous Bookmark icons in the Text toolbar to navigate between the occurrences of the search text.

4.7.1 Searching Text View

Clicking the Find command in Text View pops up the Find dialog box shown below. If text is marked prior to opening the dialog box, then the marked text is automatically inserted into the Find What text box.
The **Find Next** and **Find Previous** buttons enable you to navigate through the document when the **Find** dialog box is open. Once the **Find** dialog box is closed, you can repeat the current search by pressing **F3** for a forward search, or **Shift+F3** for a backward search.

**Options**

You can check one or more of the options in the Options group box to select them.

- **Match whole word only** finds the text string only if, in the document, it is delimited by spaces.
- **Match case** finds the text string only if the casing in the document is the same as that in the entry.

Checking the **Regular expression** option causes the entry to be read as a regular expression. The button to the right of the **Find What** combo box opens a menu with entries to help define regular expressions.

**Advanced Options**

Clicking the **Advanced** button, opens a pane (screenshot below) that allows you to select XML node types to be searched.

The **Set all** and **Clear all** buttons enable you to check or uncheck all options with a single click.

**Replacing Text**

Clicking the **Replace** command in Text View pops up the **Find & Replace** dialog box (screenshot below). Clicking the **Advanced** button opens a pane for selecting XML node types in which to search (see screenshot above).
Note that the **regular expression** option applies only to the Find entry. You can replace within a selected text range (the range must be selected before opening the dialog) by checking the **Replace in Selection Only** option.

### Using Regular Expressions

You can use **regular expressions** to further refine your search criteria. A pop-up list is available to help you build regular expressions. To access this list, click the button to the right of the input field for the search term.

When you select an entry in the regular expressions popup, DiffDog inserts the corresponding regular expression in the **Find what** field.

- **Any Character** inserts ".". To find "Smith" as well as "Smyth", enter the following:
  
  Sm.th

- **Character in Range** inserts ":[]". Note that the cursor appears between the two brackets. To find "Wong" and "Wang", but not "Wing", enter the following:
  
  W[^a]ng

- **Character Not in Range** inserts "[^]" and places the cursor after the ^-sign. Enter the character you want to disregard when searching. Note that you can also enter several characters.
  
  W[^a]?ng

- **Beginning of Word** inserts "\<". First choose the regular expression from the popup and
then enter the string you want to find. "\<mark" will find "marketing" but not "benchmark".

\<mark

- **End of Word** inserts "\>". First enter the enter the string you want to find and then choose the regular expression from the popup. "mark\>" will find "benchmark" but not "marketing".

mark\>

- **Beginning of Line** inserts "^"; DiffDog will find the string that follows only if it appears at the beginning of a line.

^Altova

- **End of Line** inserts "\$". Enter a string and choose "End of Line" from the popup. DiffDog will find the string only if it appears at the end of a line.

Altova$

- **Tagged Expression** inserts "\(\)" and places the cursor in front of the second backslash so that you can enter the tagged expression.

- **0 or More Matches** inserts "*". The character or set of characters, respectively, preceding the * can optionally occur in the string to be found.

- **1 or More Matches** inserts "+". The character or set of characters, respectively, preceding the + can occur once or several times in the string to be found.

### 4.7.2 Searching Grid View

Clicking the **Find** command in Grid View pops up the **Find** dialog box shown below.

![Find dialog box](image)

**Types**

In the Types group box, you can select or deselect various XML node type or DTD declarations to be searched. The **Set all** and **Clear all** buttons enable you to check or uncheck all options with a single click.
Search in
You can search only the names and/or the contents of nodes by activating the respective check boxes in the Search in group box.

Settings
Match case finds the text string only if the casing in the document is the same as that in the entry. Match whole text only finds the text string only if, in the document, it is delimited by spaces.

Where
The scope of the search can be restricted to the current selection or the whole file can be searched.

Direction
The radio buttons in the Direction group box allow you to define whether the search should progress upwards or downwards from the current selection or cursor location.

Replacing text
Clicking the Replace command in Grid View pops up the Replace dialog box shown below.
4.8 Saving Files

To save a document you have edited in DiffDog, use the Save or Save As buttons in the respective panes of the comparison window. Files can also be saved using the Close, Close All, and Save commands in the File menu. Note that the individual files in the comparison window must be saved separately.

In the File comparison tab of the DiffDog Options dialog box, you can also specify whether and how backup files should be saved.

**To save a file:**

Do one of the following:

- To save an individual file, click the Save button in its pane of the comparison window.

- To save an individual file under a new name or path, click the Save As button in its pane of the comparison window. The Windows Save As dialog box appears where you can specify the new name or path for the file.

- To save both files of a comparison, select the menu option File | Save. The Save files dialog box appears where you can select the files to be saved or choose to discharge the changes.

**To save and close the files of a comparison:**

1. Click the tab of the comparison window that contains the files you want to save and close.

2. Select the menu option File | Close.

3. If a file contains unsaved changes, the Save files dialog box appears. Make sure that the file's check box is selected and click Save selected. The file is saved and the comparison window is closed.

**To save and close the files of all comparisons:**

1. Select the menu option File | Close all.

2. For every comparison window that contains a file with unsaved changes, the Save files dialog box appears. Make sure that the file's check box is selected and click Save selected. The file is saved and the comparison window is closed.
Chapter 5

Comparing Directories
ComparingDirectories

In DiffDog, directories and, optionally, their sub-directories are compared in Directory Comparison windows. Here you can compare, merge, or synchronize directories. There are two ways in which DiffDog compares directories:

- By comparing the sizes and timestamps of files in the directories. This comparison mode is called Quick Comparison Mode.
- By comparing the contents of files in directories. This comparison mode is Text Comparison Mode, or XML Comparison Mode, or Binary Comparison Mode, or Extensions Comparison Mode.

To start a directory comparison in DiffDog, you can either directly choose two directories to compare or first open an empty Directory Comparison window and then select the directories to be compared. Alternatively, you can also select two directories in Windows Explorer, right-click and select Compare with Altova DiffDog from the context menu. This will open a new instance of DiffDog and display the selected folders in a Directory Comparison Window.

The comparison will start automatically unless you have deactivated the Autostart Comparison option in the Diff and Merge menu. You can change the comparison mode as desired and restart the comparison. In addition, to eliminate differences, DiffDog allows you to copy files from one pane to the other.
To open a directory comparison window:

Do one of the following:

- Select the menu option File | Open or press Ctrl+O. Then do the following:
  1. Select Compare directories in the Open comparison dialog box.
  2. Choose the directories to be compared in the Content group box.
  3. Optionally, select a filter from the File/directory filter drop-down list.
  4. Optionally, activate the Include subdirectories check box.
  5. Click OK.

A new Directory Comparison window containing the selected directories is opened.

- Select the menu option File | Compare Directories or click the Compare directories icon in the Standard toolbar. An empty Directory Comparison window is opened.

ZIP and OOXML files

ZIP-conformant files are regarded as directories if the ZIP conformant file option is selected as the default file comparison mode for *.zip files on the File types tab of the DiffDog Options dialog (this is the default setting). You can then select a ZIP file as one of the directories in a directory comparison, show the content of a ZIP file if it appears as a file in a directory comparison, and also copy and merge files that are contained in the ZIP file.

Office Open XML (OOXML) files—which can be thought of as a specialized form of ZIP archives—are also opened for comparison in directory comparison windows. After the content of the OOXML file is displayed in the directory comparison window, you can browse for the document.xml file and open it in a file comparison window.
Altova web site: ooxml diff, zip diff
5.1 Opening a Directory Comparison Window

When opening a new Directory Comparison window, the Directory Comparison is given a name of the form Directory compare X, where X is an integer indicating that directory comparison's position in the sequence of directory comparisons opened in the current DiffDog session. This name appears in a tab at the bottom of the window.

Note that the Compare Directories command opens only the Directory Comparison window; it does not open any directory within the window. The two directories to be compared must be opened subsequently in the panes of the comparison window, one in each pane.

To open an empty Directory Comparison window:

- Select the menu option File | Compare Directory or click the Compare directories button in the Standard toolbar.
5.2 Selecting Directories for Comparison

Directories can be selected for comparison in various ways. You can open the directories in a new Directory Comparison window, re-open a previous comparison, or change the directories in the currently open Directory Comparison window.

To open directories in a new Directory Comparison window:

1. Select the menu option File | Open or press Ctrl+O.
2. In the Open Comparison dialog box, select Compare directories in the Mode group box.
3. In the Content group box, for the first and the second directory, do one of the following:
   - Enter the path of the directories.
   - Select previously compared directories from the drop-down list.
   - Click the Browse... button. In the Browse for Folder dialog that pops up, you can either select a folder from the system (click Open after selecting it) or select a web folder URL. To access the Browse for Web Folder dialog, click Switch to URL. Accessing a folder via a URL enables you to open folders via FTP and HTTP/HTTPS. How to select a web folder via its URL is explained below.
4. Optionally, choose a filter from the File/Directory filter drop-down list if you want to restrict the displayed content of the directories to certain file types.
5. If required, activate the Include subdirectories check box.
6. Click OK. The selected directories are opened in a new Directory Comparison window.

To select directories in the active Directory Comparison window:

1. In the left pane of an existing Directory Comparison window, do one of the following:
   - Click the Open icon and select a directory in the Windows Open dialog box.
   - Enter the full path of a directory and click the Apply button.
   - Select a previously compared directory from the drop-down list.
2. Repeat any of the steps described in step 1 for the right pane.

To start a directory comparison from Windows Explorer:

1. Select two directories in Windows Explorer.
2. Right-click and choose Compare with Altova DiffDog from the context menu.

A new instance to DiffDog is opened, the selected folders are displayed in a Directory
Comparison window, and the comparison is started automatically.

**Selecting folders via URLs**
To select a folder via a URL, do the following:

1. On clicking the **Switch to URL** button, the dialog switches to the URL mode of the dialog *(screenshot below)*.

2. Enter the URL of the server you want to access in the **Server URL** field *(screenshot above)*. If the server is a Microsoft® SharePoint® Server, check the **Microsoft® SharePoint® Server** check box. See the Microsoft® SharePoint® Server Notes below for further information about working with folders on this type of server.

3. If the server is password protected, enter your User-ID and password in the **User** and **Password** fields.

4. Click **Browse** to view and navigate the directory structure of the server.

5. In the folder tree, browse for the folder you want to load and click it. The folder URL appears in the URL field at the top of the dialog *(screenshot above)*. The **Open** button only becomes active at this point.

6. Click the **Open** button to load the folder into DiffDog.

**Note**: The Browse function is only available on servers which support WebDAV and on Microsoft SharePoint Servers. The supported protocols are FTP, HTTP, and HTTPS.

**Microsoft® SharePoint® Server Notes**
Note the following points about files on Microsoft® SharePoint® Servers:

- In the directory structure that appears in the Availability pane, folder icons have symbols that indicate their check-in/check-out status. Right-clicking a folder pops up a context
Comparing Directories

Selecting Directories for Comparison

The various folder icons are shown below:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>Checked in. Available for check-out.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Checked out by another user. Not available for check-out.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Checked out locally. Can be edited and checked-in.</td>
</tr>
</tbody>
</table>

After you check out a folder, you can carry out DiffDog differencing operations on it.

You can check-in the folder via the context menu in the Open URL dialog (see screenshot above).

When a folder is checked out by another user, it is not available for check out.

When a folder is checked out locally by you, you can undo the check-out with the Undo Check-Out command in the context menu (see screenshot above). This has the effect of returning the folder to the server.

If you check out a folder in one Altova application, you cannot check it out in another Altova application. The folder is considered to be already checked out to you. The available commands at this point in any Altova application supporting Microsoft® SharePoint® Server will be: Check In and Undo Check Out.
5.3 Modifying the Directory Comparison Options

When comparing directories, the comparison mode you choose determines how the content of the directories in the left and right pane of the Directory Comparison window are compared. The basic comparison mode switch is the Quick Comparison toggle. In order to access Text Comparison Mode, or XML Comparison Mode, or Binary Comparison Mode, or Extensions Comparison Mode, Quick Comparison must first be toggled off.

You can also define which types of files will be displayed in the Directory Comparison window by applying a filter. In addition, the Diff and Merge menu offers several toggle commands which can be switched on or off via the menu:

- Show Options Before Comparison
- Autostart Comparison
- Compare while Editing
- Support Recently Compared Pairs

General options for the comparison of directories are furthermore available in the Directory comparison tab of the DiffDog Options dialog box.

Note: If a new Directory Comparison window is opened, it assumes the comparison options of the last comparison window (file or directory) to have had any of its comparison options modified.

To change the mode for directory comparison:

Do one of the following:

- To use Quick Comparison Mode, toggle on Quick Comparison by selecting the menu option Diff and Merge | Compare only Size and Modification Date or activating the Quick Comparison icon in the Comparison Mode toolbar.

- Make sure that Quick Comparison is toggled off and select one of the following comparison modes from the Diff and Merge menu or activate its corresponding icon in the Comparison Mode toolbar:
  - Textual Comparison Only
  - Compare as XML
  - Compare as Binary
  - Compare According to File Extension Settings
5.4 Running a Directory Comparison

When the two directories to be compared are loaded into the Directory Comparison window, a comparison is automatically carried out if the Autostart Comparison command is toggled on (which is the default setting) or if you have selected directories in Windows Explorer and used the Compare with Altova DiffDog context menu command. In addition, comparisons can be explicitly started any number of times with the Start Comparison command.

If you double-click a file in the Directory Comparison window, this file and the corresponding file in the compared directory are opened in a new File Comparison window and compared immediately.

Filtering the content of compared directories

The Directory content toolbar contains a drop-down list from which you can select a filter to be applied to the Directory Comparison window. You can change this filter at any time prior to or after a comparison, or change the definition of a filter as well as add a new filter.

To run a filtered directory comparison:

Do one of the following:

- When selecting directories for comparison using the File | Open menu option, select a filter from the File/Directory filter drop-down list in the Open Comparison dialog box.

- If you have already opened a Directory Comparison window, select a filter from the drop-down list that is available in the Directory content toolbar.

The content in the Directory Comparison window is updated and a comparison is started immediately.
5.5 Configuring the View

In Directory Comparison windows, you can toggle on and off the display of the Size and Last Modified columns by right-clicking the Header of either pane and then clicking **Size** and/or **Last Modified**.

The column width can also be changed by dragging column borders to the desired location.

**Controlling what files are displayed**

You can configure the view of individual Directory Comparison windows to display files on the basis of their compared status. For example, you can opt to not display all equal files, or to not display non-comparable files, or to display files that are unequal and newer in the left pane but to not display files that are unequal and newer in the right pane. To do this, you use a set of simple toggle commands that are available as toolbar icons. Note that the toggle is on when the icon has a border around it (as depicted below).

- **Show/Hide equal**: Shows or hides files and sub-directories that are equal in the left and right pane.
- **Show/Hide left newer**: Shows or hides files that are unequal, and where the never version of the file is located in the left pane.
- **Show/Hide right newer**: Shows or hides files that are unequal, and where the never version of the file is located in the right pane.
- **Show/Hide left only**: Toggles on and off the display of subdirectories and files that are present in the left pane only.
- **Show/Hide right only**: Toggles on and off the display of subdirectories and files that are present in the right pane only.
- **Show/Hide not comparable**: Toggles on and off the display of files that are not comparable. Files are considered to be non-comparable if they cannot be compared in the selected **Comparison Mode**. For example, in XML Comparison Mode, file types that have been **specified as not being XML-conformant** are considered to be not comparable.
- **Show/Hide empty directories**: Toggles on and off the display of empty directories.

**Displaying sub-directories**

If, during opening the directories using the **File | Open** menu option, you have decided to not show sub-directories in the Directory Comparison window, you can nevertheless activate this option in any stage of the comparison by clicking the **Include Subdirectories** button in the Directory content toolbar. Clicking the button again will toggle the display of sub-directories off again. With the button toggled on, you can use the following buttons to customize the display of sub-directories:

- **Collapse**: Collapses all directories that have subdirectories. Note that this command will
collapse all sub-directories in both panes. To collapse a single sub-directory, double-click on it.

**Expand:** Expands all directories that have subdirectories.
5.6 Displaying Differences in Directories

The directory comparison results are displayed as trees in both panes. If sub-directories are displayed, they can be collapsed and expanded by double-clicking the icons for them. The comparison results are indicated with colors and icons as described below.

The colors in which file names are displayed are significant. DiffDog displays the individual files in a Directory Comparison window in the following colors:

- **Black**: The file is equal in the selected comparison mode.

  ![Black Icon](image)

  Names of files that cannot be compared in the selected comparison mode are also displayed in black.

- **Blue**: The file is present in the directory in which it is displayed, but not in the other directory.

  ![Blue Icon](image)

- **Red**: The file is present in both directories, but is not equal in the selected comparison mode. Note that the newer file is colored a brighter red.

  ![Red Icon](image)

Sub-directory names are always displayed in black.

**Folder icons**

The following icons are used for directories in Directory Comparison windows. Note that expanded directories are shown with their top right corners turned down (left icon):

- **Blank Body**: Directories that contain files that are **equal** in the selected comparison mode are indicated with a blank body.

  ![Blank Body Icon](image)

- **Not-equal Sign**: Directories that contain **different** files in the selected comparison mode are indicated with a not-equal sign.

  ![Not-equal Sign Icon](image)

- **Blue Exclamation Mark**: Directories that contain files that are **not present** in the corresponding directory in the other pane are indicated with a blue exclamation mark.

  ![Blue Exclamation Mark Icon](image)

- **Both Extra and Different**: Directories that have **both extra** files and **different** files are indicated with an
exclamation mark and a not-equal sign.

ZIP and OOXML icons
The following icons for ZIP and OOXML files are used for directories in Directory Comparison windows:

- If the ZIP archives/OOXML files contain files that are equal in both panes, the ZIP symbol displays two blank file icons.
- ZIP archives/OOXML files that contain different files are indicated with a not-equal sign.
- ZIP archives/OOXML files that contain files that are not present in the corresponding ZIP in the other pane are indicated with a blue exclamation mark. Note that the exclamation mark is displayed in the pane where the additional file is located.
- ZIP archives/OOXML files that have both extra files and different files are indicated with an exclamation mark and a not-equal sign.

File icons
The following file icons are displayed in Directory Comparison windows:

- Files that are equal in the selected comparison mode are displayed with a blank body.
- Files that are non-equal in the selected comparison mode are displayed with a not-equal sign.
- Files that are not present in the other pane are displayed with a blue exclamation mark.

Comparison symbols
The following symbols appear in the column between the two panes and indicate the results of the directory comparison, specifically the relationship between the files on either side of the symbol. Note that these symbols are only displayed for files and not for subdirectories.

- Files are equal in the selected comparison mode.
- Files are different in the selected comparison mode.
- Files cannot be compared in the selected comparison mode.
5.7 Comparing Files from within a Directory Comparison

Double-clicking a file in any of the two directories opens that file and its corresponding file in the other directory in a File Comparison window. If a corresponding file does not exist, no file is opened in the second window.

The new file comparison is opened in the current comparison mode of the directory comparison or—if Quick Comparison is the comparison mode of the directory comparison—in the comparison mode that was the current file comparison mode (Text, XML, Binary, or Extensions) when the directory comparison was opened, respectively.

You can continue to work in the File Comparison window as in a regular file comparison session.

The new feature will allow to save/load comparisons in DiffDog i.e. selected files-directories and according options to exactly reproduce current comparison.
5.8 Synchronizing Directories

In addition to the merging functionality, which allows you to copy individual files from one pane to the other, DiffDog in the **Diff and Merge** menu also provides the **Synchronize directories** option. This option allows you to synchronize the content of the two directories in one single step.

The **Synchronize directories** dialog box can be opened exclusively from a Directory Comparison window, that is, there is no independent menu option available and you have to open a Directory Comparison window first. After two directories have been compared in a Directory Comparison window, you have the following options:

- Synchronizing the currently displayed directories including their sub-directories
- Selecting a single sub-directory in the Directory Comparison window and synchronizing only that particular sub-directory

In the Mode group box of the **Synchronize directories** dialog box, you can choose from two options: (i) **Fully synchronize** all sub-directories and files (left to right or right to left), or (ii) adapt the **synchronization settings**. You can always change the synchronization actions for the individual files by activating the **Enable manual override of synchronization actions** check box, and, finally, synchronize the two directories.

**To open the Synchronize directories dialog box:**

1. Make sure that the two directories that you want to synchronize are displayed in a Directory Comparison window and that you have compared them.
2. Do one of the following:
   - To synchronize the currently displayed directories including their sub-directories, select the menu option **Diff and Merge** | **Synchronize directories** or click the **Synchronize** button in the Directory content toolbar.
To synchronize only the sub-directory that is selected in the Directory Comparison window, select the menu option **Diff and Merge | Synchronize selected directory** or click the **Synchronize selected** button in the Directory content toolbar.

### 5.8.1 Full Synchronization

If you have activated the **Fully synchronize all sub-directories and files** check box in the Mode group box, you can choose whether you want to synchronize (i.e., copy) the files from left to right or from right to left by selecting the corresponding radio button. This option will perform the following actions:

- All different files will be overridden
- Files that only exist in the source directory will be copied to the target directory
- Additional files that exist in the target directory will be deleted permanently (respectively moved to the recycle bin, if possible)
- No backup files will be created

You can, however change the default synchronization settings by activating the **Enable manual override of synchronization actions** check box.

The **Enable manual override of synchronization actions** check box enables you to fine-tune your synchronization actions for one or more particular files or sub-directories. If this check box is activated, the Sync Action column provides a drop-down list where you can choose a synchronization action for an individual file or sub-directory and thus override the settings that have been defined on directory level.

### 5.8.2 Adapting the Synchronization Settings

Within a running session of DiffDog, the **Synchronize directories** dialog box opens with the previously saved settings for directory synchronization and displays them in the upper part of the dialog. When a new DiffDog instance (or session) is opened, the **Synchronize directories** dialog box opens for the first time with the default settings. Using the drop-down lists and check boxes, you can adapt those settings so as to meet the requirements for synchronizing the currently displayed directories.

In the Different files group box, you define which files are to be copied, that is, whether older or newer files are to be kept, and whether they should be copied to the right, or left directory, or to both directories. The default option copies newer files to the opposite side so that only the newer version of the file will be kept.

You can choose from among the following options:

- **No action**: This option ignores different files.
- **Copy newer files**: This option copies the newer version of a file to the opposite directory.

You can use the **Left to right** and **Right to left** check boxes to limit the
update to one particular directory. Check both boxes to copy the newer files to the opposite directory and thus update both directories.

- **Copy older files**: This option copies the older version of a file to the opposite directory. You can use the **Left to right** and **Right to left** check boxes to limit the update to one particular directory. Check both boxes to copy the older files to the opposite directory and thus update both directories.

The **Create backup files** check box allows you to keep a backup of a file's previous version in the directory. If activated, the previous version is saved with a `.BAK` extension before the updated version is copied to the directory.

The **Enable manual override of synchronization actions** check box enables you to fine-tune your synchronization actions for one or more particular files or sub-directories. If this check box is activated, the Sync Action column provides a drop-down list where you can choose a synchronization action for an individual file or sub-directory and thus override the settings that have been defined on directory level.

The **Enable manual override of synchronization actions** check box allows you to keep a backup of a file's previous version in the directory. If activated, the previous version is saved with a `.BAK` extension before the updated version is copied to the directory.

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5.8.3 **Changing the Synchronization Actions**

Basically, the synchronization options are defined for the directories as a whole. You can, however, change the synchronization actions for one or more individual files or sub-directories manually if the **Enable manual override of synchronization actions** check box is activated.
Warning: If you apply a delete action to a sub-directory, also all files that are contained in this directory will be deleted on the chosen side. Since equal files are not displayed in the Synchronize directories dialog, DiffDog displays a warning so as to alert you to this fact.

To define synchronization actions manually for individual files:

1. Make sure that the Enable manual override of synchronization actions check box is activated.
2. Optionally, change the default synchronization option for the directories in the Different files and Missing files/directories group boxes.
3. To change the pre-selected synchronization action for a particular file, click the drop-down list in the Sync Action column between the two directory panes and select one of the following options:
   - <blank>: No synchronization for this file.
   - copy >: The file will be copied from the left side to the right side without considering which file is newer.
   - < copy: The file will be copied from the right side to the left side without considering which file is newer.
   - delete >: The file will be deleted on the right side.
   - < delete: The file will be deleted on the left side.
   - < delete >: The file will be deleted on both sides.
4. If you choose to delete a sub-directory, click OK in the warning message informing you that also equal files will be deleted.

A message pops up informing you that manual changes will not be considered when changing the synchronization options.
5. Click **OK**.

The synchronization action is indicated with a different background color. If you later on change the overall settings for the directories and the settings happen to match the manually changed action, the background color will be removed again.

**To reset manual synchronization actions:**

1. Do one of the following:
   - Click the **Reset all** button.
   - Deactivate the **Enable manual override of synchronization actions** check box.

2. Click **OK** in the message box that appears.

**5.8.4 Starting a Directory Synchronization**

After you have configured the synchronization actions on directory level and, if applicable, for individual files, you have to start a directory synchronization manually.

**To start a directory synchronization:**

1. **Open** a Directory Comparison window and **run** the comparison.
2. Open the **Synchronize directories** dialog box.
3. Choose either **full synchronization** or define **detailed settings** for different and missing files.
4. Optionally, **adapt the default synchronization settings** or **change the synchronization action** for individual files.
5. To run the directory synchronization, click the **Start** button. If you choose to not run the synchronization and abort the synchronization settings you defined in the **Synchronize directories** dialog box, click the **Cancel** button to return to the Directory Comparison window from where you opened the **Synchronize directories** dialog box.
After you have clicked the **Start** button, DiffDog displays a summary where the different actions are listed that will be performed during the synchronization.

![Synchronize directories summary]

Synchronization will perform following actions:

<table>
<thead>
<tr>
<th>Sync action</th>
<th>left side</th>
<th>right side</th>
</tr>
</thead>
<tbody>
<tr>
<td>insert files</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>replace files</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>delete files</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Do you want to continue?

[OK] [Cancel]

You can click on **OK** to commit the changes or cancel the synchronization process.
Chapter 6

Navigating Differences
6 Navigating Differences

When the results of a comparison are first displayed it is always the first difference that is the current difference. You can navigate through the differences by selecting other differences to be the current difference or move the selection of the current difference by using the following navigation commands in the Diff and Merge menu and toolbar:

- **Next Difference (Alt+Down)**: Selects the next difference as the current difference.
- **Previous Difference (Alt+Up)**: Selects the previous difference as the current difference.
- **Last Difference (Alt+End)**: Selects the last difference in the document as the current difference.
- **First Difference (Alt+Home)**: Selects the first difference in the document as the current difference.
- **Display Current Difference (Ctrl+Enter)**: Scrolls through the document to display the current difference. This command is useful if you have scrolled to some point that causes the current difference to be outside the display area (document pane).
- **Make Current Difference (Alt+Enter)**: Makes the selected difference the current difference, and sets it as the difference from which to navigate. The Make Current Difference command is useful if you wish to jump directly to a particular difference and navigate from there.

If the icons described above are not displayed in your toolbar, you can include them by checking the Diff and Merge option in the Toolbars tab of the Customize dialog box.

**Please note**: The navigation commands move the selection of the current difference in both documents. If you wish to edit highlighted text, you must place the cursor in the highlighted text (in the appropriate document).

**Current difference and editing**

If, in a File Comparison window, you start typing into the document and the Compare While Editing toggle in the Diff and Merge menu is off, all difference highlighting disappears in both documents. If the Compare While Editing toggle is on, then if you type in something that results in a difference it is highlighted as the current difference; if you make a modification that removes a difference, the difference immediately following the cursor position is highlighted as the current difference.

**To make a difference the current difference**:

1. Place the cursor in the required difference (which could be anywhere in the document) or navigate to it using the Next Difference or Previous Difference navigation commands listed above.
2. Select the menu option **Diff and Merge | Make Current Difference** or press Alt+Enter or select the corresponding toolbar icon from the Diff and Merge toolbar.
Chapter 7

Merging Differences
Merging Differences

After running a file or directory comparison in a comparison window, you can merge differences that exist between the directories/files in the two panes.

In File Comparison windows, a difference (that is, a text fragment for which there is no, or no identical, corresponding text fragment in the compared file) can be copied over from one file to the corresponding location in the other file.

In Directory Comparison windows, the selected non-equal file (a file for which no, or no equal, corresponding file exists in the compared directory) can be copied from one directory to the other directory.

You use the following commands to merge a difference:

- **Copy from Left to Right (Alt+Right)**
  For the selected difference in a file comparison, copies text from the document in the left pane to the document in the right pane.
  For the selected non-equal file in a directory comparison, copies the file from the (directory in the) left pane to the (directory in the) right pane.

- **Copy from Right to Left (Alt+Left)**
  For the selected difference in a file comparison, copies text from the document in the right pane to the document in the left pane.
  For the selected non-equal file in a directory comparison, copies the file from the (directory in the) right pane to the (directory in the) left pane.

In file comparisons, the source difference is copied in its entirety (i.e., the entire unit highlighted in the current difference background color overwrites the entire difference in the target document). Merged differences in file comparisons can be shown in a different background color. This setting is made in the File Comparison tab of the DiffDog Options dialog box.

To merge a difference:

1. Place the cursor in the required difference (which could be anywhere in the document) or navigate to it using the Next Difference or Previous Difference navigation commands listed above.
2. Select the menu option Diff and Merge | Make Current Difference or press Alt+Enter or select the corresponding toolbar icon from the Diff and Merge toolbar.
3. Do one of the following:
   - Select the menu option Diff and Merge | Copy from Left to Right or click the corresponding toolbar icon or press Alt+Right if you want to copy from the left pane to the right pane.
   - Select the menu option Diff and Merge | Copy from Right to Left or click the corresponding toolbar icon or press Alt+Left to copy from the right pane to the left pane.
Chapter 8

Exporting Differences
8 Exporting Differences

For both file and directory comparisons, the differences can be exported to file. Clicking the Export Differences... command pops up the Export Differences dialog box (screenshot below), in which you can specify the file name of the file to which the differences will be exported.

Differences can be exported either in XML or in text format; the available format depends on the comparison mode, according to the following table:

<table>
<thead>
<tr>
<th></th>
<th>XML</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>File comparison</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>Directory comparison</td>
<td>n.a.</td>
<td></td>
</tr>
</tbody>
</table>

Please note that the menu option File | Export differences... is not available if the comparison options for XML files are set as follows:

- The Detailed differencing check box in the View results group box is not activated, or
- the Ignore node depth check box in the Depth group box is activated.

The Export Differences command is also available from the command line.

To export differences to file:

1. Run a file comparison or run a directory comparison.
2. Select the menu option File | Export differences...
3. In the Export differences dialog box, choose the location where you want to export the differences to from the Save in drop-down list.
4. Enter a file name and choose the desired file format from the Save as type drop-down list.
5. Click Save to save the differences under the specified file name.
Chapter 9

Saving and Loading Comparisons
9 Saving and Loading Comparisons

The settings selected for a file or directory comparison can be saved in a .filedif or .dirdif file, respectively. The .filedif extension is used for file and MS Word comparisons. The .dirdif contains Word options only if saved from the Enterprise edition. When a .filedif or .dirdif file is opened with DiffDog, the GUI loads the two objects to be compared using the settings saved in the .filedif or .dirdif file. This feature is useful if you wish to repeat a comparison of two files or two folders at a later time with the same settings as the current settings for that comparison.

Saving .filedif and .dirdif files
To save the settings of the comparison, select the command File | Save As. Select the appropriate filetype (.filedif or .dirdif), enter the filename you want and click Save. The file is saved to the specified location. DiffDog will be the default default editor of these file extensions; this will have been set by the installer at the time of installation.

Opening .filedif and .dirdif files
To open a comparison file (.filedif or .dirdif), select the command File | Open Comparison File, browse for the comparison file, and click Open. You can also drag-and-drop the file from Windows Explorer into DiffDog. Full URL support (that is, local, http, and ftp) is available.

A .dirdif file can be opened in any edition, irrespective of which edition the file was saved from. (MS Word options can only be saved in the Enterprise edition.) If you are using a Professional Edition and the .dirdif file contains Word options (which are not supported in the Professional edition), then an error message appears on opening the file.

Command line support
You can use the command line to open one comparison file at a time:

```
DiffDog_Batch C:\test1.filedif
DiffDog_Batch C:\test*.filedif
DiffDog_Batch C:\test.*dif
```

Note the following points:

- Wildcards are allowed
- Any additional options will be ignored except /g (this option opens the file in GUI mode)
- Command line output will be similar to other comparison modes (screen or report file)
Chapter 10

Comparison Management Options
10 Comparison Management Options

The Diff and Merge menu includes a series of commands that are used to customize the file and directory comparisons and can be summed up as comparison management options. Apart from the option to explicitly start a comparison (see below), options to automate certain comparison functions as well as to facilitate the selection of recently compared pairs are available.

Starting a comparison

The Start Comparison command in the Diff and Merge menu applies to File Comparison as well as Directory Comparison windows and is used to explicitly start a comparison at any time. Please note that a comparison starts automatically and this command is thus not needed if the Autostart Comparison or Compare while Editing comparison management options are toggled on.

To explicitly start a comparison:

- Select the menu option Diff and Merge | Start Comparison or press F5. Alternatively, you can also click the corresponding toolbar button in the Diff and Merge toolbar or right-click the tab of a comparison window and select the Start Comparison command from the context menu that appears.
10.1 Automatic Comparison Functions

DiffDog provides options that automatically start a comparison when files are loaded or edited. In addition, you can display the comparison options each time before a comparison is actually started. Note that all of these options are toggle commands.

**Autostart Comparison**

If the **Autostart Comparison** option is toggled on, then a comparison is automatically made when files or directories are loaded into a comparison window. If this option is toggled off, then a comparison (file or directory) must be explicitly started.

**To autostart comparisons:**
- Activate the menu option **Diff and Merge | Autostart Comparison** or activate the corresponding toolbar icon in the Diff and Merge toolbar.

**Compare while Editing**

A toggle to compare or not compare documents in File Comparison windows while editing. If toggled on, differences are highlighted as you edit. If toggled off, highlighting of differences is turned off in both documents as soon as you start typing in either document; to highlight differences after editing, you must run a comparison.

**To compare files while editing:**
- Activate the menu option **Diff and Merge | Compare while Editing** or activate the corresponding toolbar icon in the Diff and Merge toolbar.

**Show Options Before Comparison**

This command is toggled either on or off for individual comparison windows. When toggled on for a comparison window, the **Comparison Options** dialog box is displayed each time a comparison is made in that window. Note that the **Comparison Options** dialog box is not displayed before comparisons made dynamically by DiffDog while you edit a document.

**To show the options before comparison:**
- Activate the menu option **Diff and Merge | Show Options Before Comparison** or activate the corresponding toolbar icon in the Diff and Merge toolbar.
10.2 Recently Compared Pairs

If, (i) a file or directory you select for comparison has previously been compared with another file or directory, respectively, and (ii) the Support Recently Compared Pairs option in the Diff and Merge menu has been toggled on, then the Recently Compared Pairs dialog box (shown below) appears. This dialog box contains a list of the five files or directories with which the file or directory being opened has most recently been compared.

If you wish to compare the file or directory being opened with one of the files or directories listed in this dialog box, select the item from the list in the dialog box and click OK. This causes both files or directories to be opened, one in each pane. If you do not wish to select any of the items listed in the dialog, click Cancel. This causes the file or directory to be opened alone; you now have to select the file or directory with which you wish to compare it in the second pane.

Note: Clicking Cancel causes the selected file or directory to open in one pane without opening any previously compared file or directory in the other pane. Clicking Cancel does not stop the selected file or directory from being opened. If you wish not to have the Recently Compared Pairs dialog box appear each time you open a document, then toggle the Support Recently Compared Pairs option off.
Chapter 11

DiffDog Options
11 DiffDog Options

The Tools | DiffDog Options command enables you to define global application settings. These settings are specified in a dialog box and saved in the registry. They apply to all current and future document windows. The Apply button in the DiffDog Options dialog box displays the changes in the currently open documents and fixes the current settings. The changes are seen immediately in the background windows.

Each page of the DiffDog Options dialog box is described in detail in this section.

To change DiffDog settings:

1. Select Tools | DiffDog Options... or select the DiffDog Options button in the Diff and Merge toolbar. The DiffDog Options dialog box appears.

2. Select the tabs for the following options:
   - Application
   - File Comparison
   - Directory Comparison
   - File Types

3. Make the desired changes and click OK.
11.1 Application

In the Application tab of the DiffDog Options dialog box, you define the startup options of the application.

![DiffDog Options dialog box]

**Startup**

Three radio buttons are available to define whether DiffDog starts up with an empty File Comparison window, an empty Directory Comparison window, or no comparison window.

If the Allow multiple instances check box is deactivated, starting DiffDog when an instance of DiffDog is already running causes a new comparison window (file, directory, or empty) to open in the already running instance of DiffDog.

The Show Program Logo option—if checked—displays the splash screen (logo) when DiffDog starts.

**Windows Explorer Integration**

If the Add "Compare with Altova DiffDog" entry to the Windows Explorer context menu check box is activated, you can start a file or directory comparison directly from Windows Explorer by selecting the respective files or directories and choosing Compare with Altova DiffDog from the context menu.

**Encoding**

You can select the encoding with which to open an XML file or non-XML files, respectively, where
the encoding cannot be detected.

**Program logo**

The Show Program Logo option—if checked—displays the splash screen (logo) when DiffDog starts. The Show on print becomes enabled and can be switched off after you have registered your application. If this option is checked, the program logo is printed with the active document or directory-comparison result, when this is printed.
11.2 File Comparison

The File comparison tab enables you to set preferences for file comparisons. These options range from display attributes to file actions, and apply to all open and subsequently opened file comparisons.

Backup files
This option lets you configure whether the original file should be saved if you decide to save a version of it that you have edited in DiffDog, and, in such cases, how the original file and edited file should be named. The newly named files are created when you save an edited file. The following options are available.

- **No backup**: The original file is overwritten by the edited file, and the name of the original file is retained.
- **Replace extension with .BAK**: If the original file was called `abc.xml`, changes are written to this file, and a copy of the original is saved as `abc.bak`.
- **Append .BAK to extension**: If the original file was called `abc.xml`, changes are written to this file, and a copy of the original is saved as `abc.xml.bak`.

**Tip**: The .BAK files can be set to be XML-conformant, and used for comparisons with other XML files.

If ZIP-conformant files change, DiffDog creates a backup for the individual files that have changed inside the ZIP rather than a backup of the ZIP itself.

Automatic reload of changed files
If a file that is open in DiffDog has been changed by another application or another person, DiffDog can reload the changed file, with or without prompting you to reload.
**Editing**
You can make a difference in the compared documents the current difference by clicking in it if the `Clicking a difference makes it the current difference check box` is activated.

The properties of the display font can be freely chosen. Clicking the `Font` button opens the `Font` dialog box for this purpose.

**Colors**
You can choose different background colors for highlighting differences in compared documents, the current difference, merged differences (that is, all merged differences that have not been saved as yet), and the current merged difference (a merged difference that is currently selected). You can go back to the default colors by clicking the `Default colors` button.

**Pretty-Print**
The `Pretty-Print XML files when loading option` automatically creates a more user-friendly display when XML files that are originally delivered in a continuous stream without line breaks are loaded into File Comparison windows.
11.3 Directory Comparison

The Directory comparison tab enables you to create filters that determine what files will be considered in directory comparisons. After exiting this dialog box by clicking OK, you still have to select the required filter in the Directory Comparison window. Clicking OK does not select the filter for use; it saves the changes and exits the dialog box.

**File/Directory filters**

Filters are available for selection in the toolbar of the Directory Comparison window and in the Open Comparison dialog box if the Compare directories option has been selected.

The File/Directory filters group box contains several buttons for defining, organizing, and deleting the filters:

- **Edit Filter** dialog for the selected filter, where you can change the filter definition.
- **Edit Filter** dialog, where you can create a new filter. When the definition is completed, the filter is added to the list of available filters below the filter that has been selected when the button has been clicked.
- Moves the selected filter one position down in the list of filters.
- Moves the selected filter one position up in the list of filters.
Creates a copy of the selected filter.

Pastes the copy of a filter below the selected filter.

Deletes the selected filter.

**Default file/directory filters**

This group box contains a drop-down list with the available default filters. Select a filter and click Create to open the Edit Filter dialog box, where you can create a new filter based on the definition of the selected default. Edit name and filter definition as required and click OK to add a new filter to the list of available filters in the File/Directory filters group box.

**Modification Alerts**

If the Enable alerts for modifications inside directories check box is activated, DiffDog displays a warning message when the content of the displayed folders is changed outside of DiffDog. You can then decide whether or not you want to update the display.

**Quick comparison**

In this group box, you can define whether size only, or size and modification date should be considered during quick comparison. When Size and modification time is selected, you can also activate the Allow time difference of exactly 1 hour check box. A time difference of exactly one hour may occur shortly after the shift to, or from, daylight saving time when the system time is changed automatically. Activating the Allow time difference of exactly 1 hour check box will prevent such files from being displayed as different.

**Confirm merge operation**

You can define whether or not a warning message should be displayed before files are deleted, copied, or replaced during directory merge operations.

If you activate the Don't show this dialog again! in this dialog box, the corresponding
option is automatically deactivated in the DiffDog Options dialog box.

11.3.1 Defining a Filter

The Edit Filter dialog provides several options to restrict the directory comparison:

- Consider only files of a certain type
- Consider only specific directories
- Ignore certain files or directories
- Compare files or directories with certain attributes
- Define a date range for files/directories to be compared
- Restrict files to a certain file size

Note that if a file type is included in both the Include only files and Ignore files field, then that file type is ignored in a directory comparison.

For Directory Comparison windows that were opened before a new filter is selected, you must reload both directories so that the new filters are applied to these comparison windows.
Modification date

In the Modification date group box, you can enter a From and/or a Till date to define a date range for directory comparison. Only files within that particular date range will be considered when the directories are compared. To include all files from or until a particular date, activate only the corresponding check box (From or Till, respectively) and leave the second check box unchecked.

If a check box is activated, you have several options for changing the date:

- Type a two-digit number in the year, day, hour, and minute fields. Note that in the year field, the number 91 through 99 will display the years 1991 through 1999, whereas the numbers 00 through 90 will result in years 2000 through 2090.
- In the respective date field, click the arrow button to the right of the date to open the calendar drop-down window. Here, several options are available:
  - Select a date by clicking on it.
  - Select today's date by clicking the corresponding button (see second screenshot below) or by right-clicking anywhere in the calendar drop-down window and selecting Go to today from the context menu that appears.
  - Browse the calendar years by clicking into the year and using the arrow buttons that appear next to the year (see screenshot), or the Up and Down keys.
  - Browse the calendar months by clicking the arrows or by clicking into the month and selecting the desired new month from the list that appears.
  - Click into the date field and select the date part (i.e., year, month, day, hour, minute) you want to change and use the Up and Down keys or, for day, year, and time, simple type in the new number to alter the content. You can navigate to the next or previous date part by pressing the Right or Left key on your keyboard.

To define a filter for directory comparison:

1. Select the menu option Tools | DiffDog Options and change to the Directory Comparison tab, or click the Edit Filter button in the toolbar of a File Comparison window to open the DiffDog Options dialog.
2. Click the button to open the Edit Filter dialog.
3. In the **Edit Filter** dialog, enter a descriptive name in the **Filter name** field. By default, "*.*" is displayed in the **Include only files** fields and "**" is displayed in the **Include only directories** fields. If you don't change this settings, files of all types and in all directories will be compared.

4. To restrict the comparison to certain file types, enter the file extension in the **Include only files** field. To exclude file types from comparison, enter the file extension in the **Ignore files** field. Note that file types are listed in the form *).ext, and that the delimiter between file types in a filter is the semi-colon (;).

5. To include or ignore specific sub-folders of a directory during comparison, enter the name of the folder(s) in the **Include only directories** field or the **Ignore directories** field, respectively. You can also use the wildcard character * to enter only parts of folder names. Note that the delimiter between individual folder names in a filter is the semi-colon (;).

6. To include files or directories that have certain attributes applied, activate the respective check box(es) in the **File/Directory attributes** group box. Files or directories with unchecked attributes will not be shown in the Directory Comparison window. Note that hidden files in hidden directories will not be shown if the **Hidden** check box is activated for files but deactivated for directories.

7. Activate the **From** and/or **Till** check boxes in the **Modification date** group box, if you want to restrict the comparison to a certain date range.

8. Activate the **From** and/or **Till** check boxes in the **File size** group box, if you want to restrict the comparison to files of a certain size. Enter a number and select the appropriate unit from the drop-down list.

9. Click **OK** to save the changes.
11.4 File Types

In the File types tab (screenshot below), you set the default comparison mode of various file types. File types are identified by their extension (.asp, .biz, etc.), and the comparison mode can be XML, text, binary, or ZIP-conformant.

File types
This pane is used to select the file extension for which the options in the group boxes Default comparison mode and Use syntax coloring are defined. Please note that any changes that you make in these two group boxes only apply to the file type currently selected in the File Types pane.

Default file comparison mode
To assign a default comparison mode for a particular file type, in the Default file comparison mode group box, choose one of the following radio buttons:

- XML-conformant file
  An instance of that file type is checked for XML conformance, and is treated as an XML file if it is conformant. An XML-conformant file may be compared as XML or text.

- Textual comparison

- Binary comparison
  An instance of that file type is considered as binary file. A byte-by-byte comparison is used in directory comparison. Files of this type will not be displayed in text view.

- ZIP-conformant file
  An instance of that file type is considered as a sub-directory in directory comparison. In file comparison, files of this type are compared as binaries.
The comparison mode can be overridden for individual file comparisons by selecting the desired comparison mode in the **Diff and Merge** menu. DiffDog detects binary files automatically.

**Use syntax coloring**
You can choose from among the following options for syntax coloring:
- No syntax coloring
- XML-conformant syntax coloring
- Source code-conformant syntax coloring

**Edit file type list**
To add a new file type to the list in the File types pane, click the **Add New File Extension** button. To delete a file type from the list, select the file extension in the list and then click the **Delete Selected File Extension** button.
12 User Reference

The User Reference section contains a complete description of all DiffDog menu commands. We've tried to make this user manual as comprehensive as possible. If, however, you have questions which are not covered in the User Reference or other parts of this documentation, please look up the FAQs and Discussion Forums on the Altova website. If you are still not able to have your problem satisfactorily addressed, please do not hesitate to contact us through the Support Center on the Altova website.

Note that in the File and Edit menus, all standard Windows commands are supported, as well as DiffDog-related commands.
12.1 Toolbar icons

Icons in the toolbar are shortcuts for various commands, most of which are also available as menu commands. You can toggle the display of any group of icons in the toolbar on or off using the Toolbars tab of the Customize dialog (Tools | Customize). In the GUI, you can move a toolbar by dragging its handle to the desired location.

The available toolbars are depicted below. See the respective chapters in the Reference section for a description of the commands.

The Standard Group of icons are shortcuts for file commands and common editing commands that occur in the File, Edit, and XML menus.

The Comparison Mode Group of icons enables you to select the comparison mode for files and directories. This group of commands is available in the Diff and Merge menu.

The Diff and Merge Group of icons enables you to start comparisons, navigate through differences between files, merge differences, and set application and comparison options. All these commands are available in the Diff and Merge menu and in the Tools menu.

The Directory Content Group of icons enables you to configure the display of Directory Comparison windows. Note that—except for the directory synchronization commands, which are included in the Diff and Merge menu—none of these commands are available as menu commands (see chapters "Configuring the View" and "Running a Directory Comparison" in the section "Comparing Directories" for a description). Each of these commands applies to the active directory comparison only.

The Grid Group of icons is enabled in Grid View in File Comparison windows, and most of these commands are available in the Grid View menu. With the Grid Group commands, you can make structural editing changes and modify the Grid View of your XML document. Grid View is not available for non-XML or non-well-formed documents; that is, for the Grid View of a document to be displayed, the document must be an XML document and be well-formed.

The following icons are not included in the Grid View menu:

- **Expand all selected**: In Grid View, this command expands one or more selected nodes in Grid View.
Collapse all selected: In Grid View, this command collapses the selected nodes.

Fully expand all selected: In Grid View, this command expands all selected nodes and their descendant nodes.

Collapse unselected: In Grid View, this command collapses all selected nodes and their descendant nodes.

Optimal widths: In Grid View, this command sets columns to optimal widths.

The Text Group of icons enables you to configure the display and navigation features of Text View. Some of these commands apply to the selected file only (that is, the file in which the cursor is). Other commands apply to all open files and subsequently opened files. All these commands are available as Text View menu commands.

Icons in the Grid Edit Group are used for editing in Grid View. These commands are fully described in the Grid View Menu section. Please note that this toolbar is deactivated by default, you have to activate the respective check box in the Toolbars tab of the Tools | Customize dialog box to view it.
### 12.2 File Menu

The **File** menu contains all commands relevant to manipulating files, in the order common to most Windows software products.

<table>
<thead>
<tr>
<th>Command</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare Files</td>
<td></td>
</tr>
<tr>
<td>Compare Directories</td>
<td></td>
</tr>
<tr>
<td>Open…</td>
<td>Ctrl+O</td>
</tr>
<tr>
<td>Close</td>
<td></td>
</tr>
<tr>
<td>Close all</td>
<td></td>
</tr>
<tr>
<td>Save</td>
<td>Ctrl+S</td>
</tr>
<tr>
<td>Export differences…</td>
<td></td>
</tr>
<tr>
<td>Print…</td>
<td>Ctrl+P</td>
</tr>
<tr>
<td>Print Preview</td>
<td></td>
</tr>
<tr>
<td>Print Setup…</td>
<td></td>
</tr>
<tr>
<td>Exit</td>
<td></td>
</tr>
</tbody>
</table>

In addition to the standard **Open**, **Save**, **Print**, **Print Setup**, and **Exit** commands, DiffDog offers a range of application-specific commands. Note that each of the two panes also has pane-specific icons located near the top of each pane to open and refresh the file/directory in that pane and (for file comparisons) to save the file in that pane.

#### 12.2.1 Compare Files

The **Compare Files** command **opens a new empty window** with two empty panes for file comparison. The two files to be compared must be **opened** subsequently in the panes of the comparison window.

#### 12.2.2 Compare Directories

The **Compare Directories** command **opens a new empty window** for directory comparison. The two directories to be compared must be **opened** separately in each pane.

#### 12.2.3 Open…

The **Open…** command enables you to open a File Comparison window or Directory Comparison window with the files or directories already selected. This is in contrast with the **Compare Files** and **Compare Directories** commands, which open empty comparison windows.
Note that the layout of the dialog box changes depending on whether you choose Compare files or Compare directories in the Mode group box.

12.2.4 Close

The Close command closes the active comparison window. If you have unsaved changes in either document of a file comparison being closed, the Save files dialog box appears (screenshot below). Both files in the file comparison are displayed. If a file contains unsaved changes, it is checked.

To close a comparison window:

1. Click the tab of the comparison window you want to close.
2. Select the menu option File | Close or click the Close button in the upper right corner of the comparison window.
3. If a file contains unsaved changes, the Save files dialog box appears. Do one of the following:
   - If you wish to save changes in a file, make sure that its check box is selected and click Save selected.
   - Click Discard changes to not save changes.
   - Click Cancel to not close the comparison window.

12.2.5 Close All

The Close all command closes all open comparison windows. If a document in a file comparison contains unsaved changes, the Save files dialog box (see screenshot above) appears for that file comparison. Directory comparisons are closed without any prompt.

If more than one file comparison contains document/s with unsaved changes, a Save files dialog box is displayed for each File Comparison window before the window is closed.

12.2.6 Save

Ctrl+S
The Save command is available only for file comparisons, and it pops up the Save files dialog box (see screenshot above). Both files are displayed in the dialog. If a file contains unsaved changes, the file is listed with a check mark.

**Note:** Clicking the Save icon of an individual pane in a File Comparison window causes the document in that pane to be saved without further prompting. The Save As icon enables you to save the document in that pane with a different filename.

### 12.2.7 Save As

The Save As... command pops up the familiar Windows Save As dialog box, in which you enter the name and location of the file you wish to save the active file as.

### 12.2.8 Export Differences...

The Export differences... command allows you to export differences to a file. This menu option is available for both file and directory comparisons.

### 12.2.9 Print...

CTRL+P

The Print... command pops up the Windows Print dialog box, in which you enter details about the print job. Note that this command prints the active document, that is, the document in which the cursor is when the command is invoked.

**Note:** You can print the active document from both Text View and Grid View. The output will be a printout of the selected view.

### 12.2.10 Print Preview

The Print Preview command displays a preview of how the active document will be printed.

### 12.2.11 Print Setup...

The Print Setup... command pops up the Windows Print Setup dialog, in which you can change printer settings for the print job and other printer properties. Settings include page orientation, paper size, and paper source. After you exit the Print Setup dialog, you must still use the Print command to print a document.

### 12.2.12 Exit

This command exits the DiffDog application. If documents in one or more File Comparison windows contain unsaved changes, DiffDog pops up the Save files dialog box separately for each file comparison containing an unsaved change. After you have answered the prompts, DiffDog closes.
12.3 Edit Menu

In DiffDog, you can edit documents displayed in a File Comparison window. You edit a document either by typing directly into it, and/or by using keyboard shortcuts or commands in the Edit menu.

<table>
<thead>
<tr>
<th>Command</th>
<th>Keyboard Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undo</td>
<td>Alt+Backspace</td>
</tr>
<tr>
<td>Redo</td>
<td></td>
</tr>
<tr>
<td>Cut</td>
<td>Shift+Delete</td>
</tr>
<tr>
<td>Copy</td>
<td>Ctrl+C</td>
</tr>
<tr>
<td>Paste</td>
<td>Ctrl+V</td>
</tr>
<tr>
<td>Delete</td>
<td>Delete</td>
</tr>
<tr>
<td>Find</td>
<td>Ctrl+F</td>
</tr>
<tr>
<td>Find Next</td>
<td>F3</td>
</tr>
<tr>
<td>Replace</td>
<td>Ctrl+H</td>
</tr>
</tbody>
</table>

The commands in the Edit menu include standard editing functions, such as Undo, Cut, Copy, Paste, and a powerful Find and Replace function. These commands are described in the subsections of this section.

Please note that editing commands are document-specific and that Edit menu commands are not available when a directory comparison is active.

12.3.1 Undo

Alt+Backspace, Ctrl+Z

The Undo command enables you to undo an unlimited number of previous actions for each document separately. To undo previous actions in any document, place the cursor in that document and select the Undo command. You can switch among documents in multiple open file comparisons. In each document, the Undos will continue from the point where it was last left.

Please consider the following when using the Undo and Redo commands:

- The Undo and Redo commands also undo and redo merged differences an unlimited number of times.
- It is important to place the cursor in the document that has been changed. For example, if you merge a difference from the Left Pane to the Right Pane, then the Undo for this action will only be available if the cursor is placed in the Right Pane (because this pane contains the document that has been changed).
- The Undo and Redo history is lost when the view is switched from Text View to Grid View, or vice versa.
- The Edit menu and the Undo and Redo commands are not available in Directory Comparison windows.
12.3.2 Redo

\[\text{Ctrl}+\text{Y}\]

The Redo command reverses a previous Undo command, and can be executed as many times as an Undo was performed. Like the Undo command, the Redo command is also document-specific, and you can switch among documents.

Note that the Edit menu and, therefore, this command are not available in Directory Comparison windows.

12.3.3 Cut

\[\text{Shift}+\text{Delete}, \text{Ctrl}+\text{X}\]

The Cut command copies the selected text to the clipboard and deletes it from its present location.

Note that the Edit menu and, therefore, this command are not available in Directory Comparison windows.

12.3.4 Copy

\[\text{Ctrl}+\text{C}\]

The Copy command copies the selected text to the clipboard. This can be used to duplicate data within DiffDog or to move data to another application.

Note that the Edit menu and, therefore, this command are not available in Directory Comparison windows.

12.3.5 Paste

\[\text{Ctrl}+\text{V}\]

The Paste command inserts the contents of the clipboard at the current cursor position of any document you make active in DiffDog. You can also paste text from the clipboard into any other document in an application that supports pasting from the clipboard.

Note that the Edit menu and, therefore, this command are not available in Directory Comparison windows.

12.3.6 Delete

The Delete command enables you to delete a selection in the document.
Note that the Edit menu and, therefore, this command are not available in Directory Comparison windows.

12.3.7 Find...

CTRL+F

The Find... command pops up the Find dialog box, in which you can specify the string you want to find and other options for the search.

Note that the Edit menu and, therefore, this command are not available in Directory Comparison windows.

12.3.8 Find next

F3

The Find next command repeats the last Find... command to search for the next occurrence of the requested text. Clicking this command when the Find dialog box is open, closes the Find dialog box before taking you to the next occurrence of the search string.

Note that the Edit menu and, therefore, this command are not available in Directory Comparison windows.

12.3.9 Replace...

CTRL+H

The Replace... command enables you to find and replace one text string with another text string. It features the same options as the Find... command. You can replace each item individually or you can use the Replace All button to perform a global search-and-replace operation.

Note that the Edit menu and, therefore, this command are not available in Directory Comparison windows.
12.4 View Menu

The View menu contains commands to customize and organize the display of the DiffDog interface. It also contains the Go to line/char command, which takes you directly to a given line and character.

![Menu](image)

12.4.1 Text View

The Text View command is available in File Comparison windows (not Directory Comparison windows), and switches both files of the active File Comparison window to Text View. Note that both files are always displayed in the same view. To switch the view, you can also use the Text View tab of either pane; the tabs are located at the bottom of each pane.

12.4.2 Grid View

The Grid View command is available in File Comparison windows (not Directory Comparison windows), and switches both files of the active File Comparison window to Grid View. Note that both files are always displayed in the same view. To switch the view, you can also use the Grid View tab of either pane; the tabs are located at the bottom of each pane.

12.4.3 Toolbars

The Toolbars menu item is available in File Comparison and Directory Comparison windows, and contains a submenu which looks something like this:

![Submenu](image)

The submenu items are toolbars that can be toggled on and off (by clicking the submenu item). In the screenshot above, the Standard Toolbar, Diff and Merge Toolbar, Text View Toolbar, and
Comparison Mode Toolbar are toggled on, and are displayed in the GUI.

Toolbar settings are made for file comparisons and directory comparisons separately. If toolbar settings are made with a File Comparison window open, the settings apply to all File Comparison windows that are currently open and that will be opened subsequently. The same applies for Directory Comparison windows.

Clicking the Customize... submenu item pops up the Customize dialog box. (For a description of customization options, see the Tools | Customize section.) The Toolbars tab lists all the available toolbars.

### 12.4.4 Status Bar

The Status Bar, located at the bottom of the DiffDog application window, displays the following application-level information:

- A description of menu command and toolbar icon actions; displayed when the mouse cursor is placed over the command or icon. This information is on the left side in the Status Bar.
- Position of the cursor in a document, in terms of line number and character number. (At right in Status Bar.)
- Status of the Caps Lock, Num Lock and Scroll Lock keys. (At right in Status Bar.)
- If you are using the 64-bit version of DiffDog, this is indicated in the status bar with the suffix (x64) after the application name. There is no suffix for the 32-bit version.

You can toggle the Status Bar on and off using the Status Bar command in both File Comparison and Directory Comparison windows.

**Note:** Do not confuse the Application Status Bar described here with the File Comparison and Directory Comparison Status Bars, which are located at the bottom of Comparison Windows and contain information about that comparison. Comparison Window status bars are described in the DiffDog Interface section.

### 12.4.5 Synchronized Scrolling

The Synchronized Scrolling command opens a sub-menu, where you can set this option separately for horizontal and vertical scrolling.

Synchronized scrolling is available in File Comparison windows. If documents extend over a horizontal or vertical length greater than the size of its containing pane, horizontal and vertical scrollbars, respectively, appear at the bottom and right of the pane, respectively. When synchronized scrolling is enabled, both documents can be scrolled simultaneously so that corresponding sections of the two documents are displayed simultaneously.

If you scroll through one document (by moving the scrollbar, clicking the scroll arrows, or using the mouse wheel) when synchronized scrolling is toggled on, the document in the other pane will also scroll (horizontally or vertically) so that the corresponding part of the document is displayed.

Please note that synchronized scrolling is possible only after a file comparison has been carried
out (since the correspondence of sections in the two documents can only be determined after a comparison is made).

Settings for synchronized scrolling apply to the application as a whole, and take effect immediately for all open File Comparison windows and subsequently opened File Comparison windows.

12.4.6 Go to line/char

Ctrl+G

The Go to line/char feature is available in File Comparison windows only, and enables you to go to a particular location in the active document using line and character coordinates. The command pops up the Go to text line/character dialog (screenshot below).

![Go to text line/character dialog](screenshot)

Enter the required line and character numbers in the respective text boxes, and click OK. This positions the cursor at the specified location.

**Note:** In Grid View, the Go to line/char feature highlights the grid cell closest to the line or character number you enter.
12.5 Text View Menu

The Text View menu contains commands that apply to the Text View display of documents in File Comparison windows. They enable you to customize the display of documents.

<table>
<thead>
<tr>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Wrap</td>
</tr>
<tr>
<td>Pretty-Print XML Text</td>
</tr>
<tr>
<td>Insert/Remove Bookmark</td>
</tr>
<tr>
<td>Go to Next Bookmark</td>
</tr>
<tr>
<td>Go to Previous Bookmark</td>
</tr>
<tr>
<td>Remove All Bookmarks</td>
</tr>
<tr>
<td>Toggle All Folds</td>
</tr>
<tr>
<td>TextView Settings</td>
</tr>
</tbody>
</table>

12.5.1 Word Wrap

The Word Wrap command enables or disables word wrapping in Text View.

12.5.2 Pretty-Print XML Text

The Pretty-Print XML Text command reformats the active XML document in Text View to give a structured display of the document. Each child node is offset from its parent by four space characters.

**Note**: The Pretty-Print XML Text command is not a toggle command. Once the command is executed, the pretty-printed format cannot be undone by clicking the Pretty-Print XML Text command again. To undo the pretty-printed format, you must use the *Undo* (Ctrl+Z or Alt+Backspace) command.

12.5.3 Insert/Remove Bookmark

The Insert/Remove Bookmark command is available in Text View only. It inserts a bookmark at the current cursor position, or removes the bookmark if the cursor is in a line that has been bookmarked previously.

Bookmarked lines are displayed in one of two ways: If the bookmarks margin has been enabled, then a solid cyan-colored ellipse appears to the left of the text in the bookmark margin. If the bookmarks margin has not been enabled, then the complete line containing the cursor is highlighted in cyan.
Tip: You can assign a keyboard shortcut for this command in the Keyboard tab of the Customize dialog box.

12.5.4 Go to Next Bookmark

The Go to Next Bookmark command is available in Text View only. It places the text cursor at the beginning of the next bookmarked line.

Tip: You can assign a keyboard shortcut for this command in the Keyboard tab of the Customize dialog box.

12.5.5 Go to Previous Bookmark

The Go to Previous Bookmark command is available in Text View only. It places the text cursor at the beginning of the previous bookmarked line.

Tip: You can assign a keyboard shortcut for this command in the Keyboard tab of the Customize dialog box.

12.5.6 Remove All Bookmarks

The Remove All Bookmarks command is available in Text View only. It removes all currently defined bookmarks in the active document. Note that the Undo command does not undo the effects of this command.

Tip: You can assign a keyboard shortcut for this command in the Keyboard tab of the Customize dialog box.

12.5.7 Toggle All Folds

The Toggle All Folds command toggles the active document between two states: (i) all nodes expanded, and (ii) all nodes collapsed.

12.5.8 Text View Settings

The Text View Settings command opens the Text View Settings dialog box where you can define settings for the display of line number, bookmark, and source folding margins, specify the tab size, and define which visual aids are available in Text View.
12.6 **Grid View Menu**

The **Grid View** Menu contains commands for working with documents in the **Grid View** of File Comparison windows.

These commands are not available in Text View.

12.6.1 **Insert**

Placing the cursor over the **Insert** command pops up a sub-menu which contains the items that can be inserted. The submenu items of the **Insert** command are enabled only in **Grid View**. Items that cannot be inserted for the current selection are grayed out.

The commands of the **Insert** sub-menu can be used to insert (i) the **XML declaration** and node types (**Attribute**, **Element**, **Text**, **CDATA**, **Comment**, **Processing Instruction**) in XML documents, (ii) **DOCTYPE** declarations and **external DTD declarations** in XML documents, and (iii) DTD declarations (**ELEMENT**, **ATTLIST**, **ENTITY**, and **NOTATION**) in DTD documents and internal DTD
declarations of XML documents.

**Insert | Attribute**

The **Insert | Attribute** command is available in Grid View only, and inserts a new attribute before the selected item. Sometimes, an inserted attribute may appear a few lines before the current item in Grid View. This is because attributes immediately follow their parent element in Grid View and precede all child elements of that parent element.

**Insert | Element**

The **Insert | Element** command is available in Grid View only, and inserts a new element before the selected item. If the current selection is an attribute, the new element is inserted before the first child element of the attribute's parent element.

**Insert | Text**

The **Insert | Text** command is available in Grid View only, and inserts a new text row before the selected item. If the current selection is an attribute, the text row is inserted after the attribute and before the first child element of the attribute's parent element.

**Insert | CDATA**

The **Insert | CDATA** command is available in Grid View only, and inserts a new CDATA block before the selected item. If the current selection is an attribute, the CDATA block is inserted after the attribute and before the first child element of the attribute's parent element.

**Insert | Comment**

The **Insert | Comment** command is available in Grid View only, and inserts a new comment before the selected item. If the current selection is an attribute, the new comment row is inserted after the attribute and before the first child element of the attribute's parent element.

**Insert | XML**

The **Insert | XML** command is available in Grid View only, and inserts a row for the XML declaration before the selected item. You must insert the child attributes of the XML declaration and the values of this attribute. An XML declaration must look something like this:

```xml
<?xml version="1.0" encoding="UTF-8"?>
```

**Note:** Since an XML document may only contain one XML declaration at the very top of the file, this command should only be used with the topmost row selected and if an XML declaration does not already exist.
Insert | Processing Instruction

The Insert | Processing Instruction command is available in Grid View only, and inserts a new processing instruction (PI) before the selected item. If the current selection is an attribute, the PI is inserted after the attribute and before the first child element of the attribute's parent element.

Insert | DOCTYPE

The Insert | DOCTYPE command is available in the Grid View of an XML file when a top-level node is selected. It appends a DOCTYPE declaration at the top of the XML document. You must enter the name of the DOCTYPE, and this name must be the same as the name of the document element.

After you have entered the name of the DOCTYPE, you can enter the declarations you wish to use in the internal DTD subset.

Note: A DOCTYPE declaration may only appear between the XML declaration and the XML document element.

Insert | ExternalID

The Insert | ExternalID command is available when a child item of the DOCTYPE declaration in an XML file is selected in Grid View. This command inserts a Grid View row for an external identifier (PUBLIC or SYSTEM). You must enter the type of identifier and its value.

The Text View corresponding to the screenshot of the Grid View shown above looks like this:

```xml
<!DOCTYPE OrgChart SYSTEM "orgchart.dtd" [
  <!ELEMENT name (#PCDATA)>]
```

Note: A row for ExternalID can be added as a child when the DOCTYPE item is selected, or it can be inserted or appended when one of the child items of the DOCTYPE item is selected, for example, the ELEMENT declaration name in the example above.

Referencing external resources

A DOCTYPE declaration in an XML file can contain a reference to an external resource containing DTD declarations. This resource is referenced either through a public or system identifier. For
example:

```xml
<!DOCTYPE doc_element_name PUBLIC "publicID" "systemID">
<!DOCTYPE doc_element_name SYSTEM "systemID">
```

A system identifier is a URI that identifies the external resource. A public identifier is location-independent and can be used to dereference the location of an external resource. For example, in your `<%SPY-GEN%>` installation, URIs for popular DTDs and XML Schemas are listed in a catalog file called `MainCatalog.xml`. A public identifier in an XML document can be used to dereference a DTD listed in `MainCatalog.xml`.

**Insert | ELEMENT**

The **Insert | ELEMENT** command is available in **Grid View** only, for DTD documents or when an item in the **DOCTYPE** declaration of an XML document is selected. It inserts an ELEMENT declaration before the selected declaration.

**Insert | ATTLIST**

The **Insert | ATTLIST** command is available in **Grid View** only, for DTD documents or when an item in the **DOCTYPE** declaration of an XML document is selected. It inserts an ATTLIST declaration before the selected declaration.

**Insert | ENTITY**

The **Insert | ENTITY** command is available in **Grid View** only, for DTD documents or when an item in the **DOCTYPE** declaration of an XML document is selected. It inserts an ENTITY declaration before the selected declaration.

**Insert | NOTATION**

The **Insert | NOTATION** command is available in **Grid View** only, for DTD documents or when an item in the **DOCTYPE** declaration of an XML document is selected. It inserts a NOTATION declaration before the selected declaration.

### 12.6.2 Append

Placing the cursor over the **Append** command pops up a submenu which contains the items that can be inserted for a given selection. The submenu items of the **Append** command are enabled only in **Grid View**. Items that cannot be inserted for the current selection are grayed out.
The commands of the Append sub-menu can be used to append (i) the XML declaration and node types (Attribute, Element, Text, CDATA, Comment, Processing Instruction) in XML documents, (ii) DOCTYPE declarations and external DTD declarations in XML documents, and (iii) DTD declarations (ELEMENT, ATTLIST, ENTITY, and NOTATION) in DTD documents and internal DTD declarations of XML documents.

**Append | Attribute**

The **Append | Attribute** command is available in Grid View only, and appends a new attribute.

**Append | Element**

The **Append | Element** command is available in Grid View only, and appends an element node after the last sibling element of the selected element. If an attribute node is selected, then the element node is appended after the last child of the selected attribute's parent element.

**Append | Text**

The **Append | Text** command is available in Grid View only, and appends a text block after the last sibling element of the selected element. If an attribute node is selected, then the text block is appended after the last child of the selected attribute's parent element.

**Append | CDATA**

The **Append | CDATA** command is available in Grid View only, and appends a CDATA node after
the last sibling of any selected node other than an attribute node. If an attribute node is selected, then the CDATA section is appended after the last child of the selected attribute's parent element.

**Append | Comment**

The **Append | Comment** command is available in **Grid View** only, and appends a comment node after the last sibling of any selected node other than an attribute node. If an attribute node is selected, then the comment node is appended after the last child of the selected attribute's parent element.

**Append | XML**

The **Append | XML** command is available in **Grid View** only, and inserts a row for the XML declaration as the first item in a document. You must insert the child attributes of the XML declaration and the values of this attribute. An XML declaration must look something like this:

```xml
<?xml version="1.0" encoding="UTF-8"?>
```

**Note:** Since an XML document may only contain one XML declaration at the very top of the file, this command should only be used with the topmost row selected and if an XML declaration does not already exist.

**Append | Processing Instruction**

The **Append | Processing Instruction** command is available in **Grid View** only, and appends a processing instruction node after the last sibling of any selected node other than an attribute node. If an attribute node is selected, then the processing instruction node is appended after the last child of the selected attribute's parent element.

**Append | DOCTYPE**

The **Append | DOCTYPE** command is available in the **Grid View** of an XML file when a top-level node is selected. It appends a DOCTYPE declaration at the top of the XML document. You must enter the name of the DOCTYPE, and this name must be the same as the name of the document element.

After you have entered the name of the DOCTYPE, you can enter the declarations you wish to use in the internal DTD subset.

**Note:** A DOCTYPE declaration may only appear between the XML declaration and the XML document element.
Append | ExternalID

The Append | ExternalID command is available when a child item of the DOCTYPE declaration in an XML file is selected in Grid View. This command inserts a Grid View row for an external identifier (PUBLIC or SYSTEM). You must enter the type of identifier and its value.

The Text View corresponding to the screenshot of the Grid View shown above looks like this:

```xml
<idocType orgChart SYSTEM "orgchart.dtd" [
  <ELEMENT name (#PCDATA)> ]
```

**Note:** A row for ExternalID can be added as a child when the DOCTYPE item is selected, or it can be inserted or appended when one of the child items of the DOCTYPE item is selected, for example, the ELEMENT declaration name in the example above.

Append | ELEMENT

The Append | ELEMENT command is available in Grid View only, for DTD documents or when an item in the DOCTYPE declaration of an XML document is selected. It appends an ELEMENT declaration to the list of declarations.

Append | ATTLIST

The Append | ATTLIST command is available in Grid View only, for DTD documents or when an item in the DOCTYPE declaration of an XML document is selected. It appends an ATTLIST declaration to the list of declarations.

Append | ENTITY

The Append | ENTITY command is available in Grid View only, for DTD documents or when an item in the DOCTYPE declaration of an XML document is selected. It appends an ENTITY declaration to the list of declarations.

Append | NOTATION

The Append | NOTATION command is available in Grid View only, for DTD documents or when an item in the DOCTYPE declaration of an XML document is selected. It appends a NOTATION declaration to the list of declarations.
12.6.3 Add Child

Placing the cursor over the Add Child command pops up a submenu which contains the items that can be inserted for a given selection. The submenu items of the Add Child command are enabled only in Grid View. Items that cannot be inserted for the current selection are grayed out.

| Add Child | Attribute
| Add Child | Element
| Add Child | Text

The commands of the Add Child sub-menu can be used to add child nodes for (i) the XML declaration and node types (Attribute, Element, Text, CDATA, Comment, Processing Instruction) in XML documents, (ii) DOCTYPE declarations and external DTD declarations in XML documents, and (iii) DTD declarations (ELEMENT, ATTLIST, ENTITY, and NOTATION) in DTD documents and internal DTD declarations of XML documents.

Add Child | Attribute

The Add Child | Attribute command is available in Grid View only and when an element node is selected. It inserts a new attribute as a child of the selected element node.

Add Child | Element

The Add Child | Element command is available in Grid View only. It inserts a new element as a child of the selected node.

Add Child | Text

The Add Child | Text command is available in Grid View only, and inserts new text content as a child of the selected item.
Add Child | CData

The Add Child | CData command is available in Grid View only, and inserts a new CDATA section as a child of the selected item.

Add Child | Comment

The Add Child | Comment command is available in Grid View only, and inserts a new Comment node as a child of the selected item.

Add Child | XML

The Add Child | XML command is available in Grid View only and when the file is empty. It inserts a row for the XML declaration. You must insert the child attributes of the XML declaration and the values of this attribute. An XML declaration must look something like this:

```xml
<?xml version="1.0" encoding="UTF-8"?>
```

Add Child | Processing Instruction

The Add Child | Processing Instruction command is available in Grid View only and inserts a new Processing Instruction (PI) as a child of the selected item.

Add Child | DOCTYPE

The Add Child | DOCTYPE command is available in the Grid View of an empty document. It inserts a DOCTYPE declaration in an XML document. The DOCTYPE declaration can be used to declare an internal DTD subset.

Add Child | ExternalID

The Add Child | ExternalID command is available when the DOCTYPE declaration in an XML file is selected in Grid View. This command inserts a Grid View row for an external identifier (PUBLIC or SYSTEM). You must enter the type of identifier and its value.

The Text View corresponding to the screenshot of the Grid View shown above looks like this:
Note: A row for ExternalID can be added as a child when the DOCTYPE item is selected, or it can be inserted or appended when one of the child items of the DOCTYPE item is selected, for example, the ELEMENT declaration name in the example above.

Add Child | ELEMENT

The Add Child | ELEMENT command is available in Grid View only, for DTD documents or when the DOCTYPE declaration of an XML document is selected. It appends an ELEMENT declaration to the list of declarations.

Add Child | ATTLIST

The Add Child | ATTLIST command is available in Grid View only, for DTD documents or when the DOCTYPE declaration of an XML document is selected. It appends an ATTLIST declaration to the list of declarations.

Add Child | ENTITY

The Add Child | ENTITY command is available in Grid View only, for DTD documents or when the DOCTYPE declaration of an XML document is selected. It appends an ENTITY declaration to the list of declarations.

Add Child | NOTATION

The Add Child | NOTATION command is available in Grid View only, for DTD documents or when the DOCTYPE declaration of an XML document is selected. It appends a NOTATION declaration to the list of declarations.

12.6.4 Convert to

The Convert to command converts a selected item in Grid View to a different item type. This operation is available only in Grid View on individual items that do not contain any child node. Placing the cursor over the Convert to command pops up a submenu which contains the items to which the selected item can be converted.
If the operation would result in a loss of data (for example, converting an attribute to a comment would result in a loss of the attribute name), a warning dialog box will appear.

12.6.5 Table

The Table menu command can be used only in Grid View. It pops out a sub-menu with commands that enable you to edit the selection as a table.

- Display as Table
- Insert Row
- Append Row
- Ascending Sort
- Descending Sort

Display as Table

The Display as Table command allows you to switch between the standard Grid View and Table View of an element in the document.

Insert Row

The Insert Row command is enabled in Table View when a row or cell is selected. It inserts a new row before the selected row. The new row corresponds to an occurrence of the table element. Mandatory child elements are created for the new element.
Append Row

The **Append Row** command is enabled in **Table View** when a row or cell is selected. It appends a new row after the last row of the table. The new row corresponds to an occurrence of the table element. Mandatory child elements are created for the new element.

Ascending Sort

The **Ascending Sort** command is enabled in **Table View** when a column or cell is selected. It sorts the table on the basis of the contents of the selected column, in ascending order. DiffDog tries to automatically determine what kind of data is used in the column, and sorts on alphabetic or numeric order, as required. In case of uncertainty, you will be prompted for the sort method to use (**screenshot below**).

![Sort as...](image)

XMLSpy is able to sort your data numerically or alphabetically and automatically determines the required sort order from the selected elements. Since your data contains both text and numbers, the preferred sort order could not be determined.

Do you wish to sort:  
- alphabetically
- numerically

Descending Sort

The **Descending Sort** command is enabled in **Table View** when a column or cell is selected. It sorts the table on the basis of the contents of the selected column, in descending order. DiffDog tries to automatically determine what kind of data is used in the column, and sorts on alphabetic or numeric order, as required. In case of uncertainty, you will be prompted for the sort method to use (**For a screenshot see chapter Ascending Sort above**).

12.6.6 Move Left

The **Move Left** command is available in **Grid View** only. It moves the selected node to the left by one level, thereby changing a child element into a sibling of its parent.

12.6.7 Move Right

The **Move Right** command is available in **Grid View** only. It moves the selected node to the right by one level, thereby turning it into a child element of the preceding sibling element.
12.6.8 Enclose in Element

The **Enclose in Element** command is enabled in **Grid View** only. It encloses a selected text range in a new element. The new element is created inline around the selected text. If you are editing a document based on a Schema or DTD, you will automatically be presented with a list of valid choices for the name of the element in which the text is to be enclosed.

For example, in the screenshot below, the text "Nanonull" in the **para** element is highlighted.

```
<para>
  Due to the fact that nanoelectronic software components are new and that sales are restricted to corporate customers, "Nanonull" and its product line have not received much media publicity in the company's early years. This has however changed in recent months as trade journals have realized the importance of this revolutionary technology.
</para>
```

When you select the command **Grid View** | **Enclose in Element**, the text "Nanonull" is enclosed in a newly created inline element and a list appears offering a choice for the name of the element. These elements are defined in the schema as children of **para**.

```
<para>
  Abc: Text
  <Nanonull>
    Due to the fact that nanoelectronic software components are new and that sales are restricted to corporate customers, 
    and its product line have not received much media publicity in the company's early years. This has however changed in recent months as trade journals have realized the importance of this revolutionary technology.
  </Nanonull>
</para>
```

The selection you make will be the name of the new element. Alternatively, you can enter some other name for the element.
12.7 XML Menu

The XML menu contains commands that relate to XML documents opened in File Comparison windows.

<table>
<thead>
<tr>
<th>Check Well-Formedness</th>
<th>F7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validate</td>
<td>F8</td>
</tr>
</tbody>
</table>

12.7.1 Check Well-Formedness

The Check Well-Formedness command checks the active document for well-formedness by the definitions of the XML 1.0 specification. This command is available in both the Text View and Grid View of File Comparison windows. On running the well-formedness check, a message box displays the result of the check: whether successful or not.

**Note:** This command is available for all files with extensions that have been set as XML-conformant in the File Types tab of the DiffDog Options dialog box.

12.7.2 Validate

The Validate command is available in both the Text View and Grid View of File Comparison windows. It enables you to validate the active XML document against a DTD, XML Schema, or other schema. The associated schema must be declared in the file being validated. On validating the document, a message box displays the result of the validation: that is, whether successful or not.

**Note:** This command is available for all files with extensions that have been set as XML-conformant in the File Types tab of the DiffDog Options dialog box.
12.8 Diff and Merge Menu

The **Diff and Merge Menu** lists commands to manage file and directory comparisons. Depending on the active comparison window, commands to set the comparison mode, navigate compared documents in the comparison windows and merge differences in them are also available in this menu.

Please note that the content of the **Diff and Merge** menu changes dynamically, depending on whether a file comparison or a directory comparison is active.

12.8.1 File Comparison

The **Diff and Merge Menu** for file comparisons lists commands to (i) set comparison modes, (ii) start a comparison, (iii) navigate compared documents and display differences in File Comparison windows, (iv) merge differences in them, and (v) set the comparison management options.

<table>
<thead>
<tr>
<th>Command</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textual Comparison Only</td>
<td>Changes the comparison mode to textual comparison.</td>
</tr>
<tr>
<td>Compare as XML</td>
<td>Change comparison mode to XML</td>
</tr>
<tr>
<td>Compare as Binary</td>
<td>Change comparison mode to Binary</td>
</tr>
<tr>
<td>Compare According to File Extension Settings</td>
<td>Change comparison mode according to file extension settings</td>
</tr>
<tr>
<td>Start Comparison</td>
<td>F5</td>
</tr>
<tr>
<td>Next Difference</td>
<td>Alt+Down</td>
</tr>
<tr>
<td>Previous Difference</td>
<td>Alt+Up</td>
</tr>
<tr>
<td>Last Difference</td>
<td>Alt+End</td>
</tr>
<tr>
<td>First Difference</td>
<td>Alt+Home</td>
</tr>
<tr>
<td>Display Current Difference</td>
<td>Ctrl+Enter</td>
</tr>
<tr>
<td>Make Current Difference</td>
<td>Alt+Enter</td>
</tr>
<tr>
<td>Copy from Left to Right</td>
<td>Alt+Right</td>
</tr>
<tr>
<td>Copy from Right to Left</td>
<td>Alt+Left</td>
</tr>
<tr>
<td>Show Options Before Comparison</td>
<td></td>
</tr>
<tr>
<td>Autostart: Comparison</td>
<td></td>
</tr>
<tr>
<td>Compare while Editing</td>
<td></td>
</tr>
<tr>
<td>Support Recently Compared Pairs</td>
<td></td>
</tr>
</tbody>
</table>

**Textual Comparison Only**

The **Textual Comparison Only** command changes the comparison mode of a file or directory comparison to textual comparison. Note that this command is not available if the Quick Comparison mode is active. To change to the Text Comparison mode in that case, you have to deactivate the Quick Comparison mode first.
Compare as XML

The **Compare as XML** command changes the comparison mode of a file or directory comparison to XML comparison. Note that this command is not available if the Quick Comparison mode is active. To change to the XML Comparison mode in that case, you have to deactivate the Quick Comparison mode first.

Compare as Binary

The **Compare as Binary** command changes the comparison mode of a file or directory comparison to binary comparison. Note that this command is not available if the Quick Comparison mode is active. To change to the Binary Comparison mode in that case, you have to deactivate the Quick Comparison mode first.

Compare According to File Extension Settings

The **Compare According to File Extension Settings** command changes the comparison mode of a file or directory comparison dynamically according to the settings on the File types tab of the DiffDog Options dialog box. Note that this command is not available if the Quick Comparison mode is active. To change to the File Extension mode in that case, you have to deactivate the Quick Comparison mode first.

Start Comparison

- **F5**

This command starts comparison for the active comparison window.

Next Difference

- **Alt+Down**

This command selects the next difference as the current difference.

Previous Difference

- **Alt+Up**

This command selects the previous difference as the current difference.

Last Difference

- **Alt+End**

This command selects the last difference as the current difference.
First Difference

Alt+Home

This command selects the first difference as the current difference.

Display Current Difference

Ctrl+Enter

This command scrolls through the document to display the current difference.

Make Current Difference

Alt+Enter

This command makes the selected difference the current difference, and sets it as the difference from which to navigate.

Copy from Left to Right

Alt+Right

This command copies text of the selected difference from the document in the left pane to the document in the right pane.

Copy from Right to Left

Alt+Left

This command copies text of the selected difference from the document in the right pane to the document in the left pane.

Show Options Before Comparison

When this command is toggled on for a Comparison Window, the Comparison Options dialog box is displayed each time a comparison is made in that window. Note that the Comparison Options dialog box is not displayed before comparisons made dynamically by DiffDog while you edit a document.

Autostart Comparison

When toggled on, this command automatically starts a comparison when both files or both directories are selected and opened in the comparison window. If this option is toggled off, then a comparison (file or directory) must be explicitly started (by clicking Diff and Merge | Start Comparison).

Compare while Editing
This command is a toggle to compare or not compare documents in File Comparison windows while editing. If toggled on, differences are highlighted as you edit. If toggled off, highlighting of differences is turned off in both documents as soon as you start typing in either document; to highlight differences after editing, you must run a comparison (by clicking Diff and Merge | Start Comparison).

**Support Recently Compared Pairs**

This command is a toggle that switches on and off the option of suggesting recently compared files or directories each time a file or directory is selected in one pane. When you click this command, the Recently Compared Pairs dialog box is displayed (screenshot below). The dialog box shows the previous five files/directories with which the selected file/directory has been compared.

![Recently Compared Pairs](screenshot below)

**12.8.2 Directory Comparison**

The Diff and Merge Menu for directory comparisons lists commands to (i) set comparison modes, (ii) start a comparison, (iii) navigate compared documents and display differences in Directory Comparison windows, (iv) merge differences in them, (v) synchronize directories, and (vi) set the comparison management options.
Show Files in ZIP Archives

The **Show files in ZIP archives** option is deactivated by default, therefore only the file itself will be shown in directory comparisons. To be able to expand the file and view its content you must activate the **Show files in ZIP archives** option.

Compare Only Size and Modification Date

The **Compare only Size and Modification Date** command compares files within directories and subdirectories by size and date modified. This mode is either toggled on or off. When toggled off, the four **file comparison modes** become available. Selecting one of the file comparison modes causes directories to be compared in terms of their contents as text, XML, or binary files.
Copy from Left to Right

Alt+Right

This command copies the selected non-equal file from the (directory in the) left pane to the (directory in the) right pane.

Copy from Right to Left

Alt+Left

This command copies the selected non-equal file from the (directory in the) right pane to the (directory in the) left pane.

Synchronize Directories

This command opens the Synchronize directories dialog box and populates it with all non-equal files that are present in at least one of the directories.

Synchronize Selected Directory

This command is only available if at least one of the compared directories contains a sub-directory which is selected. It opens the Synchronize directories dialog box and populates it with all non-equal files that are present in the selected sub-directory.
12.9 Tools Menu

The Tools Menu contains commands that enable you to set the application and comparison options and to customize the appearance of DiffDog.

12.9.1 DiffDog Options...

This command opens the DiffDog Options dialog box where you can set the options for the application, file comparison, and directory comparison, and define the file types that can be compared.

12.9.2 Comparison Options...

This command opens the Comparison Options dialog box which provides separate tabs to set the comparison options for file comparison and directory comparison.

Please note that the Comparison Options dialog box is displayed automatically before a comparison is started if the Show Options Before Comparison option is toggled on in the Diff and Merge menu.

12.9.3 Comparison Document Options

Clicking the Comparison Document Options command pops up the Comparison Document Options dialog (screenshot below), in which you can specify the filetype of the file to which comparison differences are exported from the command line.

The options are: (i) No export; (ii) XML file; and (iii) Text file.
12.9.4 Customize...

The Customize... command lets you customize DiffDog to suit your personal needs.

Commands

The Commands tab allows you customize your menus or toolbars.

To add a command to a toolbar or menu:

1. Select the menu option Tools | Customize.
   The Customize dialog box appears.

2. Select the All Commands category in the Categories list box.
   The available commands appear in the Commands list box.

3. Click on a command in the Commands list box and drag it to an existing menu or toolbar.
   An I-beam appears when you place the cursor over a valid position to drop the command.

4. Release the mouse button at the position you want to insert the command.
   - A small button appears at the tip of mouse pointer when you drag a command. The "x" below the pointer means that the command cannot be dropped at the current cursor position.
   - The "x" disappears whenever you can drop the command (over a tool bar or menu).
   - Placing the cursor over a menu when dragging opens it, allowing you to insert the command anywhere in the menu.
   - Commands can be placed in menus or toolbars. If you created you own toolbar you can populate it with your own commands/icons.

Please note: You can also edit the commands in the context menus (right-click anywhere to
open the context menu), using the same method. Click the Menu tab and then select the specific context menu available in the Context Menus combo box.

**Toolbars**

The **Toolbars** tab allows you to activate or deactivate specific toolbars, as well as create your own specialized ones.

DiffDog toolbars contain symbols for the most frequently used menu commands. For each symbol you get a brief “tool tip” explanation when the mouse cursor is directly over the item and the status bar shows a more detailed description of the command.

You can drag the toolbars from their standard position to any location on the screen, where they appear as a floating window. Alternatively, you can also dock them to the left or right edge of the main window.

**Show text labels:**

This option displays explanatory text below toolbar icons when activated. You can activate or deactivate this option for each toolbar individually.

**To activate or deactivate a toolbar:**

- Click the check box to activate (or deactivate) the specific toolbar.

**To create a new toolbar:**

1. Click the **New...** button, and give the toolbar a name in the **Toolbar Name** dialog box that appears.
2. Drag commands to the toolbar in the **Commands** tab of the **Customize** dialog box.

**To reset the Menu Bar:**

1. Click the Menu Bar entry.
2. Click the **Reset** button, to reset the menu commands to the state they were in when DiffDog was installed.

**To reset all toolbar and menu commands:**
1. Click the **Reset All** button to reset all the toolbar commands to the state they were when the program was installed.
   A prompt appears stating that all toolbars and menus will be reset.
2. Click **Yes** to confirm the reset.

**To change a toolbar name:**
- Click the **Rename**... button to edit the name of the toolbar.
  This option is available only for user-defined toolbars.

**To delete a toolbar:**
1. Select the toolbar you want to delete in the Toolbars list box.
2. Click the **Delete** button.
   A prompt appears, asking if you really want to delete the toolbar.
3. Click **Yes** to confirm the deletion.
  This option is available only for user-defined toolbars.

**Keyboard**
The **Keyboard** tab allows you to define (or change) keyboard shortcuts for any DiffDog command.

In the **Set accelerator for** drop-down list, you can differentiate between shortcuts that are valid in the Default menu or in the DiffDog Design menu.
To assign a new Shortcut to a command:
1. Select the All Commands category using the Category combo box.
2. Select the command you want to assign a new shortcut to, in the Commands list box.
3. Click in the Press New Shortcut Key text box, and press the shortcut keys that are to activate the command.
   The shortcuts appear immediately in the text box. If the shortcut was assigned previously, then that function is displayed below the text box.
4. Click the Assign button to assign the shortcut.
   The shortcut now appears in the Current Keys list box.
   (To clear this text box, press any of the control keys, CTRL, ALT or SHIFT).

To de-assign or delete a shortcut:
1. Click the shortcut you want to delete in the Current Keys list box.
2. Click the Remove button.
3. Click the Close button to confirm.

To reset all shortcut keys:
1. Click the Reset All button to reset all the shortcut keys to the state they were when the program was installed.
   A prompt appears stating that all toolbars and menus will be reset.
2. Click Yes to confirm the reset.

Currently assigned keyboard shortcuts

<table>
<thead>
<tr>
<th>Hotkeys by key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl+C</td>
<td>Copy</td>
</tr>
<tr>
<td>Ctrl+F</td>
<td>Find</td>
</tr>
<tr>
<td>Ctrl+G</td>
<td>Go to Line/Char</td>
</tr>
<tr>
<td>Ctrl+H</td>
<td>Replace</td>
</tr>
<tr>
<td>Ctrl+O</td>
<td>Open</td>
</tr>
<tr>
<td>Ctrl+P</td>
<td>Print</td>
</tr>
<tr>
<td>Ctrl+S</td>
<td>Save</td>
</tr>
<tr>
<td>Ctrl+V</td>
<td>Paste</td>
</tr>
<tr>
<td>Ctrl+X</td>
<td>Cut</td>
</tr>
<tr>
<td>Ctrl+Z</td>
<td>Undo</td>
</tr>
<tr>
<td>F1</td>
<td>Table Of Contents</td>
</tr>
<tr>
<td>F3</td>
<td>Find Next</td>
</tr>
<tr>
<td>F5</td>
<td>Start Comparison</td>
</tr>
<tr>
<td>F7</td>
<td>Check Well-Formedness</td>
</tr>
<tr>
<td>F8</td>
<td>Validate</td>
</tr>
<tr>
<td>Alt+Enter</td>
<td>Make Current Difference</td>
</tr>
<tr>
<td>Ctrl+Enter</td>
<td>Display Current Difference</td>
</tr>
</tbody>
</table>
Delete
Shift+Delete
Alt+Backspace
Ctrl+Insert
Shift+Insert
Alt+Down
Alt+Up
Alt+Home
Alt+End
Alt+Left
Alt+Right

**Hotkeys by function**

- **Check Well-Formedness** F7
- **Copy** Ctrl+C Ctrl+Insert
- **Copy from Left to Right** Alt+Right
- **Copy from Right to Left** Alt+Left
- **Cut** Ctrl+X Shift+Delete
- **Delete** Delete
- **Display Current Difference** Ctrl+Enter
- **Find** Ctrl+F
- **Find Next** F3
- **First Difference** Alt+Home
- **Go to Line/Char** Ctrl+G
- **Last Difference** Alt+End
- **Make Current Difference** Alt+Enter
- **Next Difference** Alt+Down
- **Open** Ctrl+O
- **Paste** Ctrl+V Shift+Insert
- **Previous Difference** Alt+Up
- **Print** Ctrl+P
- **Replace** Ctrl+H
- **Save** Ctrl+S
- **Start Comparison** F5
- **Table Of Contents** F1
- **Undo** Ctrl+Z Alt+Backspace
- **Validate** F8

**Menu**

The **Menu** tab allows you to customize the main menu bars as well as the context menus.
You can customize the Default, the file compare, and the Directory compare menu bars.

The Default menu is the one visible when no comparison windows are open in DiffDog.

Menu shadows
The Menu shadows check box, which is checked by default, can be deactivated if you do not want all your menus to have shadows.

To customize a menu:
1. Select the menu bar you want to customize from the Show Menus for combo box.
2. Click the Commands tab, and drag the commands to the menu bar of your choice.

To delete commands from a menu:
1. Select the menu option Tools | Customize to open the Customize dialog box.
2. Do one of the following:
   • Right-click the command or icon representing the command and select the Delete option from the context menu.
   • Drag the command away from the menu, and drop it as soon as the check mark icon
appears below the mouse pointer.

**To reset either of the menu bars:**

1. Select either the Default, the File compare, or the Directory compare entry in the Show Menus for combo box.
2. Click the Reset button just below the menu name. A prompt appears asking if you are sure you want to reset the menu bar.
3. Click Yes.

**To customize any of the context menus (right-click menus):**

1. Select the context menu from the Select context menu combo box. The context menu you selected appears.
2. Click the Commands tab, and drag the commands to the context menu.

**To delete commands from a context menu:**

1. Select the menu option Tools | Customize to open the Customize dialog box.
2. Do one of the following:
   - Right-click on the command or icon representing the command and select the Delete option from the context menu.
   - Drag the command away from the context menu, and drop it as soon as the check mark icon appears below the mouse pointer.

**To reset any of the context menus:**

1. Select the context menu from the combo box.
2. Click the Reset button just below the context menu name. A prompt appears asking if you are sure you want to reset the context menu.

**To close a context menu window:**

Do one of the following:

- Click on the Close icon at the top right of the title bar.
- Click the Close button of the Customize dialog box.

**To change the appearance of menus:**

- If required, deactivate the Menu shadows check box.

**Options**

The Options tab allows you to set general environment settings.
Toolbar
When active, the Show ScreenTips on toolbars check box displays a popup when the mouse pointer is placed over an icon in any of the icon bars. The popup contains a short description of the icon function, as well as the associated keyboard shortcut, if one has been assigned.

The Show shortcut keys in ScreenTips check box allows you to decide whether or not you want to have the shortcut displayed in the tooltip.

When active, the Large icons check box switches between the standard size icons, and larger versions of the icons.
12.10 Window Menu

The **Windows** menu provides commands to arrange and organize the display of open windows.

You can cascade the open windows, tile them horizontally or vertically, or arrange document icons once you have minimized them. You can also switch to an open document window directly from the menu.

12.10.1 Cascade

The **Cascade** command rearranges all open document windows so that they are all cascaded (i.e., staggered) on top of each other.

12.10.2 Tile Horizontally

The **Tile horizontally** command rearranges all open document windows as **horizontal tiles**, making them all visible at the same time.

12.10.3 Tile Vertically

The **Tile vertically** command rearranges all open document windows as **vertical tiles**, making them all visible at the same time.

12.10.4 Currently Open Windows List

This list shows all currently open windows and lets you quickly switch between them.

The list is ordered in the sequence in which windows were opened. The active window is indicated
with a check mark.

You can also use the Ctrl+TAB or Ctrl+F6 keyboard shortcuts to cycle through the open windows.

12.10.5 Windows...

At the bottom of the list of open windows is the Windows... command. Clicking this entry opens the Windows dialog box, which displays a list of all open windows and provides commands that can be applied to the selected window(s). A window is selected by clicking on its name.

The Cascade and Tile options are available only when more than one window is selected. The Activate option is enabled only when a single window is selected.

Warning: To exit the Windows dialog box, click OK; do not click the Close Window(s) button in the dialog box. The Close Window(s) button closes the window(s) currently selected in the Windows dialog box.
12.11 Help Menu

The Help menu contains commands required to get help or more information on DiffDog, as well as links to information and support pages on our web server.

<table>
<thead>
<tr>
<th>Command</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents...</td>
<td>F1</td>
</tr>
<tr>
<td>Index...</td>
<td></td>
</tr>
<tr>
<td>Search...</td>
<td></td>
</tr>
<tr>
<td>Software activation...</td>
<td></td>
</tr>
<tr>
<td>Order Form...</td>
<td></td>
</tr>
<tr>
<td>Registration...</td>
<td></td>
</tr>
<tr>
<td>Check for Updates...</td>
<td></td>
</tr>
<tr>
<td>Support Center...</td>
<td></td>
</tr>
<tr>
<td>FAQ on the Web...</td>
<td></td>
</tr>
<tr>
<td>Download Components and Free Tools...</td>
<td></td>
</tr>
<tr>
<td>DiffDog on the Internet...</td>
<td></td>
</tr>
<tr>
<td>About DiffDog...</td>
<td></td>
</tr>
</tbody>
</table>

The Help menu also contains the Registration dialog box, which lets you enter your license key-code once you have purchased the product.

12.11.1 Table of Contents...

The Table of Contents... command displays a hierarchical representation of all chapters and topics contained in the online help system. Use this command to jump to the table of contents directly from within DiffDog.

Once the help window is open, use the three tabs to navigate between the table of contents, index, and search panes. The Favorites tab lets you bookmark certain pages within the help system.

12.11.2 Index...

The Index... command accesses the keyword index of the Online Help. You can also use the Index tab in the left pane of the online help system.

The index lists all relevant keywords and lets you navigate to a topic by double-clicking the respective keyword. If more than one topic matches the selected keyword, you are presented a list of available topics to choose from.
12.11.3 Search...

The **Search** command performs a **full-text search** on the entire online help system.

1. Enter your search term in the query field and press **Enter**.
   The online help system displays a list of available topics that contain the search term you've entered.

2. Double-click on any item in the list to display the corresponding topic.

12.11.4 Software Activation...

After you download your Altova product software, you can activate it using either a free evaluation key or a purchased permanent license key.

- **Free evaluation key.** When you first start the software after downloading and installing it, the **Software Activation** dialog box will pop up. In it is a button to request a free evaluation key-code. Enter your name, company, and e-mail address in the dialog that appears, and click **Request Now!** The evaluation key is sent to the e-mail address you entered and should reach you in a few minutes. Now enter the key in the key-code field of the **Software Activation** dialog box and click **OK** to start working with your Altova product. The software will be unlocked for a period of 30 days.

- **Permanent license key.** The **Software Activation** dialog box contains a button to purchase a permanent license key. Clicking this button takes you to Altova's online shop, where you can purchase a permanent license key for your product. There are two types of permanent license: single-user and multi-user. Both will be sent to you by e-mail. A single-user license contains your license-data and includes your name, company, e-mail, and key-code. A multi-user license contains your license-data and includes your company name and key-code. Note that your license agreement does not allow you to install more than the licensed number of copies of your Altova software on the computers in your organization (per-seat license).

  **Note:** When you enter your license information in the **Software Activation** dialog box, ensure that you enter the data exactly as given in your license e-mail. For multi-user licenses, each user should enter his or her own name in the **Name** field.

The **Software Activation** dialog box can be accessed at any time by clicking the **Help | Software Activation...** command.

12.11.5 Order Form...

When you are ready to order a licensed version of the software product, you can use either the **Order license key** button in the **Software Activation** dialog box (see **Software Activation**) or the **Help | Order Form...** command to proceed to the secure Altova Online Shop.
12.11.6 Registration...

The first time you start your Altova software after having activated it, a dialog box appears asking whether you would like to register your product. There are three buttons in this dialog:

- **OK**: Takes you to the Registration Form
- **Remind Me Later**: Pops up a dialog box in which you can select when you wish to be next reminded.
- **Cancel**: Closes the dialog box and suppresses it in future. If you wish to register at a later time, you can use the Help | Registration... command.

12.11.7 Check for Updates...

Checks with the Altova server whether a newer version than yours is currently available and displays a message accordingly.

12.11.8 Support Center...

If you have any questions regarding our product, please feel free to use this command to send a query to the Altova Support Center at any time. This is the place where you'll find links to the FAQ, support form, and e-mail addresses for contacting our support staff directly.

12.11.9 FAQ on the Web...

To help you in getting the best support possible, we are providing a list of Frequently Asked Questions (FAQ) on the Internet, that is constantly updated as our support staff encounters new issues that are raised by our customers.

Please make sure to check the FAQ before contacting our technical support team. This will allow you to get help more quickly.

We regret that we are not able to offer technical support by phone at this time, but our support staff will typically answer your e-mail requests within one business day.

If you would like to make a feature suggestion for a future version of DiffDog or if you wish to send us any other general feedback, please use the questionnaire form.

12.11.10 Download Components and Free Tools...
This command is a link to the Components Download page at the Altova website, from where you can download components, free tools, and third-party add-ins. Such software ranges from XSLT and XSL-FO processors to Application Server Platforms.

12.11.1 DiffDog on the Internet...

The DiffDog on the Internet... command takes you directly to the Altova web-server where you can find out about news, product updates and additional offers from the Altova team.

12.11.1 About DiffDog...

The About DiffDog command shows the DiffDog splash screen and copyright information dialog box, which includes the version number of your product and the DiffDog logo. If you are using the 64-bit version of DiffDog, this is indicated with the suffix (x64) after the application name. There is no suffix for the 32-bit version.
12.12 Status and Result Messages

Status and result messages for comparisons appear in the Comparison Window Status Bar, which is located at the bottom of each Comparison Window.

**Status messages**

Status messages indicate the status of that particular comparison, essentially whether files/directories have been selected; whether a comparison has been carried out; and what kind of comparison was carried out (that is, which Comparison Mode was used).

**Result messages**

If differences are found, a summary of the comparison results is provided by result messages in the Status Bar. If no differences are found, this is also reported in the Status Bar. The result message lists number and type of differences in the form:

Result: n differences  n in left pane only  n in right pane only

In File Comparison windows, Text Comparison counts differences in terms of blocks of contiguous differences, even if the Show Differences within Lines option is selected. So if there are six differences in four lines, four differences are reported. If two or more lines with differences appear consecutively, without being interrupted by a line that is equal in both files, only one difference is counted in the result message. In XML comparisons, differences are counted in terms of nodes. Note that a difference is counted when the node exists in both documents but is different. If the node does not exist in one document, such a node is listed as being either present in **Left Only** or in **Right Only**. In Binary Comparisons, it is only stated whether or not the file pair is different; no details concerning the number or location of differences are available.
Chapter 13

Command Line Options
13 Command Line Options

DiffDog can be used from the command line either in Quiet Mode or in GUI Mode.

Quiet Mode

In Quiet Mode, directories or files, respectively, can be specified from the command line. The comparison mode and comparison options for such comparisons are defined on the command line. When the command is executed, a comparison is carried out, and the results of the comparison are either displayed on the command line or can be written to a file.

For file comparisons, the two files are listed and are followed by the result of the comparison. Examples:

- c:\workarea\a\1.sps c:\workarea\add_element\1.sps equal
  The two files are equal.
- c:\workarea\a\1.sps c:\workarea\add_element\1.sps different
  The two files are different.

For directory comparisons, each item or pair of items in the directories (that is, files and subdirectories) is/are listed, followed by the comparison result. For example:

- c:\workarea\a\subdir_a\team.xml c:\workarea\add_element\subdir_a\team.xml different
  The two files are different.
- c:\workarea\add_element\subdir_addelem\team.xml rightonly
  The file is present in the directory in the right pane only.
- c:\workarea\a\1.sps c:\workarea\add_element\1.sps equal
  The two files are equal.

The default comparison mode for directory comparisons is Quick Comparison Mode. To compare directories on the basis of the content of their files, use the Comparison Mode option.

GUI Mode

In GUI Mode, directories or files can be opened in a Directory Comparison window or File Comparison window, respectively, from the command line. The comparison mode and comparison options for such comparisons are specified on the command line. When the command is executed, the directories or files are opened in the appropriate comparison window, a comparison is carried out, and the results are displayed in the GUI.

If the Allow Multiple Instances option is selected in the Application tab of the DiffDog Options dialog box (menu option Tools | DiffDog Options), and an instance of DiffDog is already running, then a new instance of DiffDog will be started. If the Allow Multiple Instances option is not checked, then the new comparison is opened in a new comparison window of an already running DiffDog instance.

To run a comparison from the command line:

1. Be sure to start the command line processing from the same directory where Altova DiffDog is installed.
2. Enter DiffDogBatch into the command line window and add the required options. Do not use DiffDog since this would start the normal DiffDog application.
13.1 Command Line Syntax

The command line options are simple switches and are optional. If not specified, the switch is off. Although they are organized into groups, the options listed can appear in any order. Note (i) that the options are not case-sensitive, and (ii) that you can use both the minus sign (−) and the slash (/) before options. The command line syntax is as follows:

```
DiffDogBatch [source name1 name2] [general options] [compare mode]
[compare options] [filter filtername] [directory compare options]
[file-filter file filtername] [export result] [>filename.txt]
```

**source:**
/cd  compare directories  
/cf  compare files  

**name1 name2:**  
names of files or directories to compare

**general options:**
/h or /?  output this information  
/g  show GUI

**compare mode:**
/mE  compare according to extension settings  
/mX  compare as XML  
/mT  compare as text  
/mB  compare binary

**compare options:**
/dD  detailed differencing  
/dL  show differences within lines  
/iB  ignore blank lines  
/iC  ignore case but not in node names  
/iCN  ignore case but not in node names  
/iD  ignore node depth  
/iN  ignore namespace  
/iNT A CD C P I D X  
 ignore node types (Attributes, CData, Comments, Processing Instructions, Doctype, XML declaration)  
/iOA  ignore order of attributes  
/iOC  ignore order of child nodes  
/iOC A G groupname T  
 ignore order of child nodes and add attributes as comparison criteria (All Attributes, Specific Attributes as defined in Group groupname, Add Element Text as Comparison Criteria)  
/iP  ignore prefixes  
/iT  ignore text (XML)  
/e  resolve entities  
/wN  normalize whitespaces  
/wS  strip all whitespaces

**filter:**
/f  filter out specific elements/attributes
**filtername:**
name of predefined filter

**directory compare options:**
/IS ignore sub-directories

**file-filter:**
/fD filter out specific files/directories in directory comparison

**file filtername:**
name of predefined file-filter

**export:**
/rT export differences in text format
/rX export differences in XML format

This switch must be followed by the "result" parameter (see below). In text comparisons, both the /rX and the /rT switches can be used; in XML comparisons, only the /rX switch is allowed. When exporting differences to text files, differences within lines (/dL) will not be exported.

**result:**
name of export file

> filename.txt
Filename.txt is the name of the file to which the results of the comparison is to be written. Note that it must be preceded by a greater than sign and must be the last parameter of the command. Do not use this option together with the export parameter.

**Note:** Some Comparison Options apply to XML Comparison Mode only (for example, /iN and /iNT). These options will therefore be ignored if the Comparison Mode option is not /mX.
13.2 Command Line Samples

Always be sure to start the command line processing from the same directory where Altova DiffDog is installed!

File Comparison

File comparisons in batch mode are indicated by the /cF switch following the DiffDogBatch command. If no further options are specified, DiffDogBatch will run in Quiet Mode. The command

c:\...\DiffDog2015\DiffDogBatch /cF c:\workarea\DDIntroEnt.txt c:\workarea\DDIntroPro.txt

which compares text versions of the Welcome Pages of DiffDog's Enterprise and Professional Editions, will result in the following output:

c:\workarea\DDIntroEnt.txt c:\workarea\DDIntroPro.txt different

To have the comparison result displayed in DiffDog rather than in the command line window, use the /g switch to specify the GUI Mode:

c:\...\DiffDog2015\DiffDogBatch /cF c:\workarea\DDIntroEnt.txt c:\workarea\DDIntroPro.txt /g

The comparison result is displayed in a new instance (or a new comparison window of the same instance if the Allow Multiple Instances option is not checked) of DiffDog. Note that all comparison options are deactivated by default if you run DiffDog from the command line. Any option that you want to use has to be activated by entering the appropriate switch in the command line.

To display differences within lines, add the /dL switch to the command:

c:\...\DiffDog2015\DiffDogBatch /cF c:\workarea\DDIntroEnt.txt c:\workarea\DDIntroPro.txt /g /dL
This will result in the following output:

If you want to keep it for your records, you can write the comparison result to a text file. Add the file name (and path if you prefer a folder other that DiffDog's installation directory) to the command:

```
c:\workarea\DDIntroEnt.txt c:\workarea\DDIntroPro.txt /dL > c:\workarea\IntroDiffs.txt
```

The content of this file will be equal to the command line output in Quiet Mode, so be sure to disable GUI Mode if you want to generate a result file, since otherwise the file will be created but remain empty because the result is not written to the command line but displayed in DiffDog in this case.

In order to compare two XML files in XML mode with detailed differencing enabled, you will have to add both the /mX and /dD switches:

```
c:\workarea\ExpReport.xml c:\workarea\ExpReport2.xml /g /mX /dD
```
If you want to compare only the XML structure of the files and **ignore text**, add the /iT switch to the command:

```
c:\...\DiffDog2015\DiffDogBatch /cF c:\workarea\ExpReport.xml c:\workarea\ExpReport2.xml /g /mX /iT
```

To **generate and export a detailed differencing report in XML format**, add the /rX switch and a file name (and path) to the command. If you do not specify a path, the file will be saved in DiffDog’s installation directory.

```
c:\...\DiffDog2015\DiffDogBatch /cF c:\workarea\ExpReport.xml c:\workarea\ExpReport2.xml /mX /dD /rX c:\workarea\xmldiffs.xml
```

An XML file with the name and at the location that you have specified will be generated:

```xml
<diff_result>
  <diff_info comparison_mode="xml">
    <source_left name="c:\workarea\ExpReport.xml" uri="file://c:\workarea\ExpReport.xml"/>
    <source_right name="c:\workarea\ExpReport2.xml" uri="file://c:\workarea\ExpReport2.xml"/>
  </diff_info>
  <xml_diff>
    <left_location>
      <parent xpath="/expense-report"/>
      <position>1</position>
    </left_location>
    <right_location>
      <parent xpath="/expense-report"/>
      <position>1</position>
    </right_location>
  </xml_diff>
</diff_result>
```

**Directory Comparison**

Directory comparisons in batch mode are indicated by the /cD switch following the DiffDogBatch command. The default comparison mode for directory comparisons is Quick Comparison Mode. To compare directories on the basis of the content of their files, use the Comparison Mode option.
If no options are specified, the comparison will run in Quiet mode and the result will be output to
the command line window. The command

```
c:\...\DiffDog2015\DiffDogBatch /cD c:\workarea c:\work-backup
```
which compares the following directories

<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Type</th>
<th>Date Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDIntroEnt.txt</td>
<td>2 KB</td>
<td>Text...</td>
<td>16/09/2009 09:06</td>
</tr>
<tr>
<td>DDIntroProf.txt</td>
<td>1 KB</td>
<td>Text...</td>
<td>16/09/2009 13:16</td>
</tr>
<tr>
<td>ExpReport2.xml</td>
<td>2 KB</td>
<td>XML ...</td>
<td>16/09/2009 10:29</td>
</tr>
<tr>
<td>ExpReport.xml</td>
<td>2 KB</td>
<td>XML ...</td>
<td>16/09/2009 10:29</td>
</tr>
<tr>
<td>IntroDiffs.txt</td>
<td>0 KB</td>
<td>Text...</td>
<td>16/09/2009 10:18</td>
</tr>
<tr>
<td>karli.txt</td>
<td>1 KB</td>
<td>Text...</td>
<td>16/09/2009 14:15</td>
</tr>
<tr>
<td>xmldiffs.xml</td>
<td>10 KB</td>
<td>XML ...</td>
<td>16/09/2009 13:17</td>
</tr>
</tbody>
</table>

will result in the following output:

```
C:\workarea\DDIntroEnt.txt C:\work-backup\DDIntroEnt.txt equal
C:\workarea\DDIntroProf.txt C:\work-backup\DDIntroProf.txt different
C:\workarea\ExpReport.xml C:\work-backup\ExpReport.xml equal
C:\workarea\IntroDiffs.txt leftonly
C:\workarea\xmldiffs.xml C:\work-backup\xmldiffs.xml different
C:\work-backup\xmldiffs2.xml rightonly
```

You can apply a **predefined filter** to your directory comparison by adding the /fD switch and
specifying the name of the filter (use quotes if the name contains spaces!). New filters cannot be
created from the command line.

```
c:\...\DiffDog2015\DiffDogBatch /cD /fD "xml conformant files"
```

Only files that match the filter criteria are considered in the comparison:

```
C:\workarea\ExpReport.xml C:\work-backup\ExpReport.xml equal
C:\workarea\ExpReport2.xml leftonly
C:\workarea\xmldiffs.xml C:\work-backup\xmldiffs.xml different
C:\work-backup\xmldiffs2.xml rightonly
```
13.3 Exit Codes

DiffDog provides exit codes to allow for conditional batch processing of file or directory comparisons. DiffDogBatch can complete with the following codes:

- **0 Equal**: The file or directory that has been compared shows no differences.
- **1 Different**: The two files or directories that have been compared are not equal.
- **2 Error**: An error occurred while comparing the file or directory.
Chapter 14

Version Control System Integration
14 Version Control System Integration

DiffDog can easily be integrated with version control systems that provide the option to use a custom (external) executable for differencing and merging.

For your convenience, this section provide instructions on how to configure miscellaneous version control systems to use DiffDog as differencing and/or merging tool. If your version control system is not listed, or if it has a different version, refer to its documentation for instructions on how to use a custom differencing or merging tool.

This section includes the following topics:

- Integrating DiffDog with Git
- Integrating DiffDog with TortoiseSVN
- Other Version Control Systems
14.1 Integrating DiffDog with Git

If you are using Git (http://www.git-scm.com) as version control system, you can set DiffDog as Git differencing tool. You can also integrate DiffDog with any Git-based tool that provides the option to define a custom external differencing tool (for example, gitk). The configuration instructions below were tested for Git 1.9.4; they are likely to be similar for other Git versions. For further information about integrating Git with external differencing tools, refer to the Git user’s manual.

To set DiffDog as the Git differencing tool:

- Add or edit the following lines in the .gitconfig file (this file is located in the user home directory, typically: C:\Users\<username>\.gitconfig):

```
[diff]
  tool = diffdog
[difftool "diffdog"]
  cmd = "'C:/Program Files/Altova/DiffDog2015/DiffDog.exe'" "$LOCAL" "$REMOTE"
```

**Note:** If you are using DiffDog 32-bit on a 64-bit operating system, adjust the path to the DiffDog executable so that it points to C:/Program Files (x86) instead of C:/Program Files.

To check whether DiffDog is set as differencing tool:

- Open the Git shell and enter the command git difftool --tool-help, as shown below.

```
$ git difftool --tool-help
'git difftool --tool=<tool>' may be set to one of the following:
  vimdiff
  vimdiff2
  user-defined:
  diffdog
```

To view changes to a Git repository file in DiffDog:

1. Open the Git repository in the Git shell, and enter the command git difftool <changed file>, for example:

```
git difftool MyFile.txt
```

2. When prompted to confirm whether DiffDog should be launched, type Y, and then press Enter. To run DiffDog without being prompted first, use the command git difftool -y <changed file>.

**Note** that the difftool command does not yield results if you provide an unchanged file as argument.
To configure DiffDog as differencing tool in the Git graphical user interface:

1. Run **gitk** (for example, by right-clicking on a directory which is under Git control, and selecting **Git History**).
2. On the **Edit** menu, click **Preferences**.
3. Under **External diff tool**, click **Choose** and select the path to the DiffDog executable (for example, `C:/Program Files/Altova/DiffDog2015/DiffDog.exe`).

In the Git graphical user interface, you can now use the **External diff** command to view in DiffDog the changes between two Git commits.
14.2 Integrating DiffDog with TortoiseSVN

If you are using TortoiseSVN (http://www.tortoisesvn.net) as version control system, you can set DiffDog as the program used for comparing different revisions of files. Although the configuration instructions below apply for TortoiseSVN 1.8.8, they are likely to be similar for other versions. For further information, refer to the TortoiseSVN user's manual.

To set DiffDog as the TortoiseSVN differencing tool:

1. Right-click on any folder, and select TortoiseSVN | Settings.
2. Click Diff Viewer.
3. Click External, and enter the path to the DiffDog executable in the format below.

```
C:/Program Files/Altova/DiffDog2015/DiffDog.exe %base %mine
```

Note: If you are using DiffDog 32-bit on a 64-bit operating system, adjust the path so that it points to C:/Program Files (x86) instead of C:/Program Files.
14.3 Other Version Control Systems

Borland StarTeam Cross-Platform Client 2008 R2

The following steps integrate Altova DiffDog into Borland Star Team:
1. Use the StarTeam client personal options (Tools | Personal options | File | Alternate applications)
2. Compare utility: Enter the DiffDog full path.

Dynamsoft SourceAnywhere for VSS 5.3.2 Client
http://www.dynamsoft.com/Products/SAW_Overview.aspx

The following steps will integrate Altova DiffDog into Dynamsoft SourceAnywhere for VSS:
2. Specify the DiffDog full path as External application for diff/merge, with the arguments: %FIRST_FILE% “%SECOND_FILE%.

Warning: Do not perform these settings from the Altova product options, as there is no possibility of inserting the external application parameters.

Dynamsoft SourceAnywhere Hosted Client (22252)
http://www.dynamsoft.com/Products/SourceAnywhere-Hosting-Version-Control-Source-Control.aspx
Dynamsoft SourceAnywhere Standalone 2.2 Client
http://www.dynamsoft.com/Products/SourceAnywhere-SourceSafe-VSS.aspx

The following steps will integrate Altova DiffDog into Dynamsoft SourceAnywhere Hosted and Dynamsoft SourceAnywhere Standalone:
1. Click the Advanced button of the Source Control tab.
2. Specify the DiffDog full path as External program application for diff/merge with arguments %FIRST_FILE% “%SECOND_FILE%.

Jalindi Igloo 1.0.3
http://www.jalindi.com/igloo/

The following steps will integrate Altova DiffDog into Jalindi Igloo:
1. Start the Show differences command in your Altova application or other application that accesses the source control system's differencing tool.
2. Open the Show Differences or Merge Files panel.
3. Set the External Diff Command by entering the DiffDog full file path as the External Diff EXE path.

Warning: When using the default diff editor CvsConflictEditor, you might have problems comparing files with excessively long lines. We recommended that you "pretty print" all files (particularly .ump files) before storing them in the repository. This limits the line length, thus
avoiding problems with the CVSConflictEditor.

**March-Hare CVS Suite Client 2008 (3321)**

The following steps will integrate Altova DiffDog into Marc-Hare CVS Suite 2008:
1. Go to the TortoiseCVS Preferences and choose the Tools tab.
2. Specify the DiffDog full path as Diff application, and the parameters \%1 \%2 as two-way differencing parameters.

**Mercurial**
see under Sergey Antonov HgScc 1.0.1

**Microsoft Visual Source Safe 2005 with CTP**

The following steps will integrate Altova DiffDog into Microsoft SourceSafe 2005:
1. Click the **Advanced** button of the Source Control tab.
2. Click the Custom Editors tab and enter C:\Program Files\Altova\DiffDog2015\DiffDogexe \%1 \%2 in the Command Line field.
3. In the Operation combo box, select **File Difference**.

**Microsoft Team Foundation Server 2008/2010 MSSCCI Provider**
http://www.microsoft.com/downloads


The following steps will integrate Altova DiffDog into Microsoft Visual Studio Team System 2008 Team Foundation Server MSSCCI Provider:
1. In the manager (Visual Studio 2008 Team Explorer or Visual Studio 2008) options, configure Altova DiffDog as new user tool
2. Choose Visual Studio Team Foundation Server source as the plug-in.
3. Configure a new user tool specifying: (i) the extensions of the files you wish to compare with DiffDog; and (ii) the DiffDog full file path.

**Perforce P4V 2008.1**
http://www.perforce.com/

The following steps will integrate Altova DiffDog into Perforce 2008:
1. Click the **Advanced** button of the Source Control tab.
2. Choose the tab Diff in the Preferences panel.
3. Check as default differencing application the field “Other application” and enter the DiffDog full file path.
PushOK CVS SCC NT 2.1.2.5  
PushOK CVS SCC x64 version 2.2.0.4  
PushOK SVN SCC 1.5.1.1  
PushOK SVN SCC x64 version 1.6.3.1  

The following steps will integrate Altova DiffDog into PushOK CVS NT and PushOK SVN SCC:

1. Click the **Advanced** button of the Source Control tab.
2. Choose the CVS Executables tab.
3. Select the value *External merge/compare tool* into the Diff/Merge field.
4. Insert the DiffDog full file path.
5. Edit the value `%first %second` into the "2 way diff cmd" field.

**Warning:** When using the default differencing editor CvsConflictEditor, you might have problems comparing files with excessively long lines. We recommended that you "pretty print" all files (particularly `.ump` files) before storing them in the repository. This limits the line length, thus avoiding problems with the CVSConflictEditor.

QSC Team Coherence Client 7.2.1.35  
http://www.teamcoherence.com

The following steps will integrate Altova DiffDog into Team Coherence Version Manager:

1. Go to Team Coherence client Options “Difference Viewer”.
2. Specify as the Default Difference Viewer application, the DiffDog full file path.
3. Specify as parameters: "$LF $RF".

**Warning:** It is possible that the new settings will only be applied after a Windows log off.

Seapine Surround SCM Client 2009.0.0  
http://www.seapine.com/surroundscm.html

The following steps will integrate Altova DiffDog into Seapine Surround SCM:

1. Go to the Surround SCM client user options (Diff/Merge) section.
2. Edit the Diff/Merge settings to compare with a selected application.
3. Enter the DiffDog full path with the parameters "%1" "%2".
4. Restart the Surround SCM client and the Altova products.

Sergey Antonov HgSCC 1.0.1  

The following steps will integrate Altova DiffDog into Mercurial:

1. Click the **Advanced** button of the Source Control tab.
2. Select differencing tool "custom", and specify the DiffDog full path.
**SourceGear Vault 4.1.4 Client**

[http://www.sourcegear.com/vault](http://www.sourcegear.com/vault)

The following steps will integrate Altova DiffDog into SourceGear Fortress and SourceGear Vault:

1. Click the **Advanced** button of the Source Control tab.
2. Set the Diff/Merge Vault options by specifying as the differencing program the DiffDog full path and using the Arguments:
   
   `/ro1 /ro2 /title1:"%LEFT_LABEL%" /title2:"%RIGHT_LABEL%" "%LEFT_PATH%" "%RIGHT_PATH%"`

**SourceGear SourceOffsite Client 4.2.0 (Windows)**


The following steps will integrate DiffDog into SourceGear SourceOffsite:

1. Click the **Advanced** button of the Source Control tab.
2. Specify as “External Programs”, “Application for comparing files” the DiffDog full path.

**TamTam CVS SCC 1.2.40, TamTam SVN SCC 1.2.24**


The following steps will integrate Altova DiffDog into TamTam CVS SCC and TamTam SVN SCC:

1. Click the **Advanced** button of the Source Control tab.
2. Specify the DiffDog full file path as the external tool for Diff/Merge and Conflict.

**Warning**: The default differencing editor CvsConflictEditor, has problems comparing files with excessively long lines. We recommended that you "pretty print" all files (particularly `.ump` files) before storing them in the repository. This limits the line length, avoiding problems with the CVSConflictEditor.
Chapter 15

License Information
15 License Information

This section contains:

- Information about the [distribution of this software product](#)
- Information about [software activation and license metering](#)
- Information about the [intellectual property rights](#) related to this software product
- The [End-User License Agreement](#) governing the use of this software product

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This license-metering technology uses your local area network (LAN) to communicate between instances of the application running on different computers.

---

**Single license**

When the application starts up, as part of the license metering process, the software sends a short broadcast datagram to find any other instance of the product running on another computer in the same network segment. If it doesn't get any response, it will open a port for listening to other instances of the application.

---

**Multi license**

If more than one instance of the application is used within the same LAN, these instances will briefly communicate with each other on startup. These instances exchange key-codes in order to help you to better determine that the number of concurrent licenses purchased is not accidentally violated. This is the same kind of license metering technology that is common in the Unix world and with a number of database development tools. It allows Altova customers to purchase reasonably-priced concurrent-use multi-user licenses.

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8. TERM AND TERMINATION

This Agreement may be terminated (a) by your giving Altova written notice of termination; (b) by Altova, at its option, giving you written notice of termination if you commit a breach of this Agreement and fail to cure such breach within ten (10) days after notice from Altova; or (c) at the request of an authorized Altova reseller in the event that you fail to make your license payment or other monies due and payable. In addition the Agreement governing your use of a previous version of the Software that you have upgraded or updated is terminated upon your acceptance of the terms and conditions of the Agreement accompanying such upgrade or update. Upon any termination of the Agreement, you must cease all use of the Software that this Agreement governs, destroy all copies then in your possession or control and take such other actions as Altova may reasonably request to ensure that no copies of the Software remain in your possession or control. The terms and conditions set forth in Sections 1(h), 1(i), 1(j), 1(k), 1(l), 2, 5, 7, 9, 10, 11, and 11 survive termination as applicable.

9. RESTRICTED RIGHTS NOTICE AND EXPORT RESTRICTIONS

The Software was developed entirely at private expense and is commercial computer software provided with RESTRICTED RIGHTS. Use, duplication or disclosure by the U.S. Government or a U.S. Government contractor or subcontractor is subject to the restrictions set forth in this Agreement and as provided in FAR 12.211 and 12.212 (48 C.F.R. §12.211 and 12.212) or DFARS 227.7202 (48 C.F.R. §227-7202) as applicable. Consistent with the above as applicable, Commercial Computer Software and Commercial Computer Documentation licensed to U.S. government end users only as commercial items and only with those rights as are granted to all other end users under the terms and conditions set forth in this Agreement. Manufacturer is Altova GmbH, Rudolfsplatz 13a/9, A-1010 Vienna, Austria/EU. You may not use or otherwise export or re-export the Software or Documentation except as authorized by United States law and the laws of the jurisdiction in which the Software was obtained. In particular, but without limitation, the Software or Documentation may not be exported or re-exported (i) into (or to a national or resident of) any U.S. embargoed country or (ii) to anyone on the U.S. Treasury Department's list of Specially Designated Nationals or the U.S. Department of Commerce's Table of Denial Orders. By using the Software, you represent and warrant that you are not located in, under control of, or a national or resident of any such country or on any such list.

10. U.S. GOVERNMENT ENTITIES

Notwithstanding the foregoing, if you are an agency, instrumentality or department of the federal government of the United States, then this Agreement shall be governed in accordance with the laws of the United States of America, and in the absence of applicable federal law, the laws of the Commonwealth of Massachusetts will apply. Further, and notwithstanding anything to the contrary in this Agreement (including but not limited to Section 5 (Indemnification)), all claims, demands, complaints and disputes will be subject to the Contract Disputes Act (41 U.S.C. §§7101 et seq.), the Tucker Act (28 U.S.C. §1346(a) and §1491), or the Federal Tort Claims Act (28 U.S.C. §§1346(b), 2401-2402, 2671-2672, 2674-2680), FAR 1.601(a) and 43.102 (Contract Modifications); FAR 12.302(b), as applicable, or other applicable governing authority. For the avoidance of doubt, if you are an agency, instrumentality, or department of the federal, state or local government of the U.S. or a U.S. public and accredited educational institution, then your
indemnification obligations are only applicable to the extent they would not cause you to violate any applicable law (e.g., the Anti-Deficiency Act), and you have any legally required authorization or authorizing statute.

11. THIRD PARTY SOFTWARE

The Software may contain third party software which requires notices and/or additional terms and conditions. Such required third party software notices and/or additional terms and conditions are located at our Website at http://www.altova.com/legal_3rdparty.html and are made a part of and incorporated by reference into this Agreement. By accepting this Agreement, you are also accepting the additional terms and conditions, if any, set forth therein.

12. JURISDICTION, CHOICE OF LAW, AND VENUE

If you are located in the European Union and are using the Software in the European Union and not in the United States, then this Agreement will be governed by and construed in accordance with the laws of the Republic of Austria (excluding its conflict of laws principles and the U.N. Convention on Contracts for the International Sale of Goods) and you expressly agree that exclusive jurisdiction for any claim or dispute with Altova or relating in any way to your use of the Software resides in the Handelsgericht, Wien (Commercial Court, Vienna) and you further agree and expressly consent to the exercise of personal jurisdiction in the Handelsgericht, Wien (Commercial Court, Vienna) in connection with any such dispute or claim.

If you are located in the United States or are using the Software in the United States then this Agreement will be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts, USA (excluding its conflict of laws principles and the U.N. Convention on Contracts for the International Sale of Goods) and you expressly agree that exclusive jurisdiction for any claim or dispute with Altova or relating in any way to your use of the Software resides in the federal or state courts of the Commonwealth of Massachusetts and you further agree and expressly consent to the exercise of personal jurisdiction in the federal or state courts of the Commonwealth of Massachusetts in connection with any such dispute or claim.

If you are located outside of the European Union or the United States and are not using the Software in the United States then this Agreement will be governed by and construed in accordance with the laws of the Republic of Austria (excluding its conflict of laws principles and the U.N. Convention on Contracts for the International Sale of Goods) and you expressly agree that exclusive jurisdiction for any claim or dispute with Altova or relating in any way to your use of the Software resides in the Handelsgericht, Wien (Commercial Court, Vienna) and you further agree and expressly consent to the exercise of personal jurisdiction in the Handelsgericht Wien (Commercial Court, Vienna) in connection with any such dispute or claim. This Agreement will not be governed by the conflict of law rules of any jurisdiction or the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded.

13. TRANSLATIONS

Where Altova has provided you with a foreign translation of the English language version, you agree that the translation is provided for your convenience only and that the English language version will control. If there is any contradiction between the English language version and a translation, then the English language version shall take precedence.

14. GENERAL PROVISIONS

This Agreement contains the entire agreement and understanding of the parties with respect to...
the subject matter hereof, and supersedes all prior written and oral understandings of the parties with respect to the subject matter hereof. Any notice or other communication given under this Agreement shall be in writing and shall have been properly given by either of us to the other if sent by certified or registered mail, return receipt requested, or by overnight courier to the address shown on Altova’s Web site for Altova and the address shown in Altova’s records for you, or such other address as the parties may designate by notice given in the manner set forth above. This Agreement will bind and inure to the benefit of the parties and our respective heirs, personal and legal representatives, affiliates, successors and permitted assigns. The failure of either of us at any time to require performance of any provision hereof shall in no manner affect such party’s right at a later time to enforce the same or any other term of this Agreement. This Agreement may be amended only by a document in writing signed by both of us. In the event of a breach or threatened breach of this Agreement by either party, the other shall have all applicable equitable as well as legal remedies. Each party is duly authorized and empowered to enter into and perform this Agreement. If, for any reason, any provision of this Agreement is held invalid or otherwise unenforceable, such invalidity or unenforceability shall not affect the remainder of this Agreement, and this Agreement shall continue in full force and effect to the fullest extent allowed by law. The parties knowingly and expressly consent to the foregoing terms and conditions.

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