

Formpipe. Lasernet

Lasernet 9 XML Transformer

Lasernet 9 – XML Transformer [Revision 3 – May 2019] © 2019 Formpipe Software Lasernet is a trademark of Formpipe Software Company website <u>www.Formpipe.com</u> Product website <u>www.Formpipe.com</u>

<u>1</u>	<u>INTRO</u>	DUCTION	2				
1.1	. Who	O SHOULD USE THIS GUIDE	3				
<u>2</u>	<u>TERMS</u>	S OF USE	4				
<u>3</u>	<u>DESIG</u>	NING FORMS	5				
3.1		RVIEW					
3.2	GET	TING STARTED	8				
	3.2.1	1 CREATING A FORM	8				
	3.2.2						
	3.2.3	3 SELECTING A GRAB FILE	9				
	3.2.4	4 DEFINING CRITERIA					
	3.2.5	0,					
3.3	Асті	IONS	14				
	3.3.1	2 C ROOT 5					
	3.3.2	2 Actions	15				
	3.3.3						
3.4	XM	L NAMESPACES					
3.5	KEYBOARD SHORTCUTS						



1.1 Who Should Use This Guide

This guide is intended to provide Lasernet users with an overview of the XML Transformer and how to create and edit forms using this feature.

2 TERMS OF USE

No part of this publication may be reproduced, transmitted, transcribed, or translated into any language in any form by any means without the prior written permission of Formpipe Software. The information in this manual is subject to change without notice. Any company names or data is fictive unless otherwise stated.

Formpipe Software shall not be liable for any loss or damage whatsoever arising from the use of this manual and the information contained therein (including errors or omissions).

Trademarks of other companies mentioned in this document appear for identification purposes only and are the property of their respective companies.

© 2019 Formpipe Software

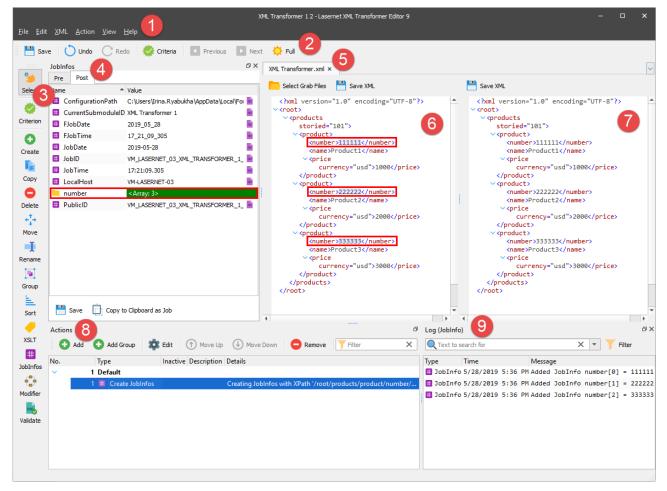


3.1 Overview

Lasernet XML Transformer Editor provides an easy to use environment for designing and maintaining XML documents. It is usually used as a "beautifier" for preparing documents for the Form Engine. It is expected that the user of this editor has relevant knowledge on XML standards and Xpath 1.0. For more advanced transformations it is also recommended that the user has knowledge of XSLT.

The features of the XML Transformer editor include (but are not limited to):

- Creating, copying, removing, moving, sorting and renaming all types of xml nodes using XPath-expressions.
- Using XSLT for the whole XML document or a specific XML node.
- Specifying different types of behaviours for each action.
- Creating a list of actions to be executed on each form.
- Specifying the order in which actions are executed.



The window where you edit your XML Transformer forms is split in two: the left part shows the input file data (the original data received from the administrative system), and the right part shows the actual form design.

The XML format is represented in a tree structure with nodes identifying the variables. These also contain the actual data. You can switch the XML input view between Full XML, XML without end tags and XML as a table via the **View** menu.

See the table below to learn more details about the user interface elements:

	Element	Description		
1	Menu bar	Contains the following commands:		
		FileEdit		

	Element	Description
		 XML Action View Help Use the Menu bar to access the main functions of the XML Transformer Editor.
2	Toolbar	Provides easy access to commands such as Save, Undo/Redo, Criteria, Previous, Next, and Full.
3	Developer toolbar	Allows you to easily define criteria and apply actions to the XML file. The Select tool allows you to turn off the activated action.
4	Pre / Post JobInfos	Names and values of JobInfos used before and after actions are executed.
5	Grab file tab(s)	Each input document is opened in a separate tab.
6	XML input view	Result of XML before action transformation
7	XML output view	Result of XML after action transformation
8	Action panel	Contains the following commands: Add Edit Toogle Inactive Move Up Move Down Remove Allow syou to add new actions or manage the list of existing actions.
9	Log grid	Presents log records of different types (if any).

3.2 Getting Started

3.2.1 Creating a Form

When you have added an XML Transformer Engine to your project, you are ready to start creating forms. To create a new XML Transformer form, proceed through the steps listed below:

- 1. In the left-hand corner of the Lasernet Developer main window, select the Forms developer tool.
- 2. On the **Engines** panel, select your XML Transformer Engine.
- 3. On the toolbar, click the **Add** button.
- 4. In the Form Properties dialog, provide parameters for your new form, and then click OK.

	Form Properties X
General	
Name:	XML Transformer 1
Form Type:	•
Description:	Optional
<u>F</u> lag:	Default 💌
Input Format:	📓 XML 👻
Modified by:	
Group:	Optional
Language:	Optional
Company:	Optional
	Grab
	Enable: 🗸
	What: 🗹 JobData (.xml) 🗌 JobInfos (.lnjob)
	Filename: Optional
	(Default: #RecognizedForm#_#JobID#)

5. You can now start editing your new form by double-clicking it or by right-clicking it and then clicking **Edit** in the context menu.

Qk Cancel

When you add a new XML Transform form, a blank form automatically opens.

The form is initially empty, so you need to select a grab file.

3.2.2 Editor Options

Once you have created at least one form, ensure that the Editor options are set as needed. You can access the Editor options by clicking **Options** on the **File** menu. The options defined affect all the configuration forms. You can change these options any time whilst working with the application.

💾 <u>S</u> ave	Ctrl+S	💏 oritaria 🛛 🗖 Daniana	🕨 Next 🔆 Full
💐 Save as	F11	Criteria <a>Previous	▶ Next 🔆 Full
✗ Close <u>T</u> ab	Ctrl+F4	ave XML	
🏚 Options			
😣 <u>C</u> lose]	

You can also define the **Backup** options. When managing the **Backup** options, you can enable or disable the continuous backup. If enabled, you can also define when the backup process occurs: after every change to a form or every specified point of time (e.g.: every 1-60 minutes).

Options	×
P	
Backup	
✓ Enabled	
After every change to form	
Every 1 minute(s)	
Qk Cance	I

3.2.3 Selecting a Grab File

To select a grab file, proceed through the steps listed below:

1. In the top right-hand corner of the form, click the Select Grab Files button.

Select Grab Files	Save XML
<no_valid_grab< th=""><th>/></th></no_valid_grab<>	/>

OR

2. On the Menu bar, click XML, and then click Select Grab Files.

<u>F</u> ile <u>E</u> dit	<u>XML Action View H</u> elp		
: 🛄 com	📁 Select Grab Files		
📑 Save	Select last Grab File from server	F12	s 🕒 Next
	🐡 Criteria		
>	Namespaces		
Select	🄹 Options		
- 🐡			
Criterion			

3. With the dialog displayed, select a grab file you wish to process and click **Open**.

Browse to the location on your computer where the relevant grab file is located. This is usually the Grab subdirectory of your configuration.

Once a grab file opens, you can change **Font** and **Zoom** for both input and output. To do this click '**Options'** on the **XML** menu. With the dialog box displayed, set the required values, and then click **Ok**.

<u>F</u> ile <u>E</u> dit	<u>XML A</u> ct	ion <u>V</u> iew <u>H</u> elp				XML Tran	sformer 12 - Laser	net XML Transi	former Editor 9				-	٥	×
💾 Save	_	Grab Files		540	s 💽 I	Next 🔆	Full								
	- Select	last Grab File from	server	F12	_	· · · · ·									
3	Criteri														~
Select		spaces							Save XML						
	🄹 Optio	N. I. NIMIT - 1.40								on="1.0" e	encoding="UTF-8	"?>			
Criterion	<pre><root: </root: </pre>	> emLine>						ו	<root></root>	+					
Criterion		<itemid>LS-150<</itemid>		4500.00					1	XML Options					
•		<name>Loudspeak <qty>1</qty></name>	er, Cherry	, 150W <th>9</th> <th></th>	9										
Create		<salesunittxt>P <salesprice>129</salesprice></salesunittxt>				Display									
		<pre>CalesPrice>129 OiscPercent /></pre>		rice>		_								-	
Сору		<lineamount>129 temLine></lineamount>	.00 <th>nount></th> <th></th> <th>Eont: Cor</th> <th>nsolas</th> <th></th> <th><u>Z</u>oom: 100°</th> <th>% \$</th> <th></th> <th></th> <th></th> <th></th> <th></th>	nount>		Eont: Cor	nsolas		<u>Z</u> oom: 100°	% \$					
•	✓<it< li=""></it<>	emLine>													
Delete		<itemid>LS-2<name>Cables fo</name></itemid>		kers											
÷‡÷		<qty>10</qty>													
Move		<salesunittxt>8 <salesprice>21.</salesprice></salesunittxt>													
Ť		<pre><discpercent></discpercent> <lineamount>210</lineamount></pre>													
Rename	<th>temLine></th> <th>. 00 / LINEA</th> <th>ioun C></th> <th></th>	temLine>	. 00 / LINEA	ioun C>											
		emLine> <itemid>LS-75<!--</th--><th>TtemId></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></itemid>	TtemId>												
Group		<name>Loudspeak</name>		, 75W											
E.		<qty>1</qty> <salesunittxt>P</salesunittxt>	iece <th>SUnitTxt></th> <th></th>	SUnitTxt>											
Sort		<pre> SalesPrice>79. DiscPercent /> </pre>		rice>											
		<pre><lineamount>79.</lineamount></pre>		ount>											
XSLT	<th>temLine></th> <th></th>	temLine>													
#	C/ROO														
JobInfos														-	
-												Qk	Cancel		
	(•							*
	Actions									đ	Log (JobInfo)				đΧ
Validate	Add	🚹 Add Group	TOT Edit	(†) Move Up		love Down	C Remove	Filter		×	Q Text to search	a for		X -	>>
		· · ·				IOVE DOWN	Remove	1 Incer		^				~ ·	
	No.	Type 1 Default	Inactiv	e Description	Details						Type Tim		Message PM Added JobIr	fe Thom	THEOT
	×	1 Default 1 🔠 Create Job	Infor		Creating	a loblafor y	/ith XPath '/Root/	Item line/Iten	ald/text0' as va	due and			PM Added Jobir PM Added Jobir		
		2 Group	inios				emLine' by value i		_		2		PM Added JobIr		
											_				
											4				•

3.2.4 Defining Criteria

Using a grab file, you can define various criteria for your XML Transformer form to recognize input data files.

A criterion is used to look for key data in specific locations in a data input file to ensure that the right input file has been received. If no matches are found the file is not processed by the form.

To define a criterion, open a grab file. For more information on how to select a grab file, see 3.2.3 Selecting a Grab File.

Once you have the grab file open, activate the **Criterion** tool and follow the steps below:

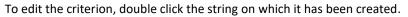
1. On the developer toolbar, click the **Criterion** button.

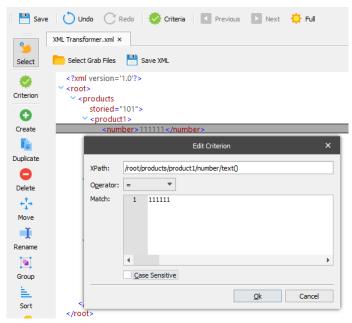


- 2. Once the cursor turns into a plus sign, click the node that you want to create a criterion on.
- 3. With the **Edit Criterion** dialog displayed, indicate the following parameters:
 - XPath;
 - Operator;
 - Match string.

Note: the parameters are automatically filled in. Modify them manually, if required.

- 4. Select the Case Sensitive check box, if required.
- 5. Once you are done, click **OK**. You can see the string highlighted in grey.





XPath

The name of the XML node, including the top node.

Match string

The value (criterion) of the XML node.

Operator

The following operators are available:

contains

Returns true if the text data contains the match string.

not contains

Returns true if the text data does not contain the match string.

=

Returns true if the text data matches the match string.

<>

Returns true if the text data does not match the match string.

Operators < <= > >=

These operators try to convert the value of the text data and match string to numbers before comparing them. From here it is possible to make numerical comparisons. If at least one of the text strings is not converted to a number, a regular string comparison is performed.

like

Returns true if the text data matches the regular expression.

not like

Returns true if the text data does not match the regular expression.

exists and not exists

You can choose whether a tagname exists within the XML input file or not by using the operators "exists" and "not exists" and leaving the match string field empty.

In addition, you can manually add a criterion. For the purposes of this guide, proceed through the steps listed below:

- 1. On the toolbar, click the **Criteria** button.
- 2. With the **Criteria** dialog displayed, click the **Add** button.

		Criteria			×			
Name	JobInfo	XPath	Operator	Case	Match			
А		/root/products/product1/number/text()	=		111111			
В		/root/products/@storied	/root/products/@storied > 🔲 101					
С		/root/products/product1/price/@currency	not contains		dk			
0	Add 🕒 Add JobInfo	🗱 Edit 🕥 Move Up 🕔 Move Dov	vn 🧧 Remov	e				
Express	sion: A AND B AND	с						
				OK	Cancel			

3. Repeat steps 3-5 of the previous instructions to specify parameters for the criteria.

Note: the parameters are not automatically filled in. All the fields of the Edit Criterion dialog are empty.

Alongside manually adding additional criteria, you can also add jobinfos, edit or remove existing criteria and change the order of the criteria using the **Criteria** dialog. Use the corresponding command buttons on the **Criteria** dialog to:

- Add Jobinfo click the button to add a Jobinfo.
- Edit click the button to edit the criterion selected in the grid.
- Move Up click to move the selected criterion up in the grid.
- Move Down click to move the selected criterion down in the grid.
- **Remove** click to remove the selected criterion from the grid.

Form Expressions

Within the **Criteria** dialog, you can define a form expression as a logical expression. Here are some examples of possible expressions:

- A and B and C and D
- (A or B) and (C or D)
- (A or B) and not (C or D)

If no form expression has been defined, all criteria is true by default. The form expression field allows a high degree of flexibility when defining rules to be used when recognizing data input files.

JobInfo Criteria

You can include JobInfos on the list of form criteria. You can only add a JobInfo criterion manually by clicking the **Add JobInfo** button.

JobInfo Criterion	×
Name: Operator: = ▼ Match: ✓ Case sensitive	
Qk Canc	2

With the Edit JobInfo Criteria dialog displayed, define the following values:

JobInfo Name	From the dropdown list, select the JobInfo which you want to work with. You can also manually type the name of one of your own JobInfos instead.
Operator	Define a type of operator to use.
Match string	Type the value to look for in the specified JobInfo.
Case Sensitive	Select the check box to activate the case-sensitivity rule.

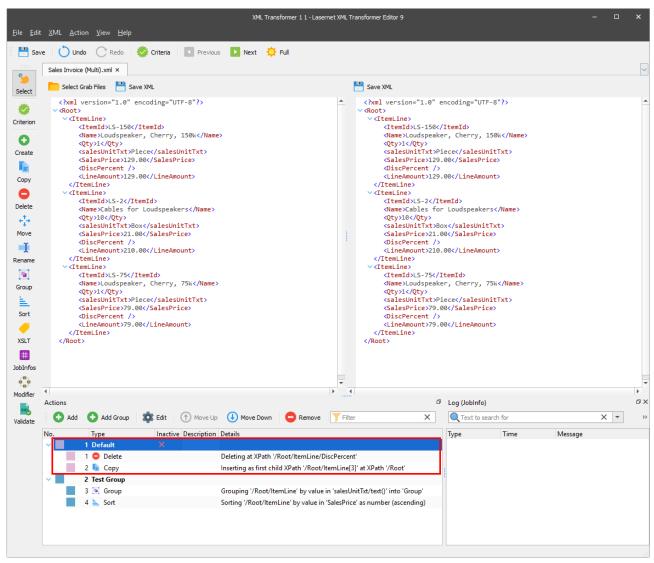
3.2.5 Saving the XML File

While working with an XML file, you can save a local copy (either output or input data, or both) at any time, to preserve its current state. Click the **Save XML** button to do this. With the dialog displayed, specify the location and name for the file to be saved.

3.3 Actions

3.3.1 Groups

You have a possibility to create groups within which you can arrange actions you have created. The tool can ease manipulating actions moved to a definite group by applying the required action to all the actions available under the group at a time. For example, you can toggle inactive all the actions available in a definite goup by making this group inactive.



The **Default** group is created by default, and all the actions you create are added to this group until you move them to another one, if needed. If you have more groups, except for the **Default** one, every new action you create is added to the group which is currently selected in the **Actions** panel.

To create a group, click the **Add Group** button on the **Actions** panel. In the **Action Group Properties** dialog that appears, define the required properties (the **Name** text box is a required field), and then click **OK**.

4						• •		
Actions	-							ð
🔂 Add	🔁 Add Group	🗱 Edit	1 Move Up	🕕 Move Down	C Remove	Filter		×
No.	Туре	Inactive		Action Group P	roperties	×		
~	1 Default	×					1	
	1 😑 Delete		Active:	v				
	2 📭 Сору		Name:	New Group			t XPath '/Root'	
~	2 Test Group		Description:	New Group				
	3 💽 Group			-			xt/text()' into 'Group	1.1.1
	4 🛓 Sort		Color:	PMS646	•		s number (ascending	J)
					ОК	Cancel		

3.3.2 Actions

3.3.2.1 *Create*

The create action is one of the simplest actions available. It takes an XPath and a given name and then creates a new node based on the type and behaviour chosen.

To apply the create action, follow the steps listed below:

1. On the developer toolbar, click the **Create** button.



2. Once the cursor turns into a plus sign, click the node on which you want to base your new node.

If more than one element of the same name is found, the following dialog appears. Make your choice by clicking the corresponding button.

		Multiple nod	es found	×
8	Do you wish to use the specific node or all possible nodes?			
		Specific	All	Cancel

3. With the Add Action dialog displayed, fill in the fields, as required, and click OK.

	Add Action	
Common Properties	- 0	
Group:	Default 👻	
Inactive:		
Action type:	🛈 Create 🤟	
Description:	Optional	
Special Properties		
Auto-create behaviour:	Do not auto-create	
<u>B</u> ehaviour:	Insert as first Child 🔹	
XPath:	/products	
Node type:	Element 👻	
Node name:	product	
Node name is:	Text O XPath O Expression	
Optional		
Namespace:		•
	OK	Cancel

See the following table to learn more about the action properties:

	Property	Description
1	Auto-create behaviour	This setting can auto-create a new element displayed in XPath if not already present in XML document. The place of the new element insertion:
		Do not auto-create (default value)Insert as first sibling
		Insert as last sibling
		 Insert as first child Insert as last child
2	Behaviour	Select a behaviour item to determine the place of the new node
2	Denaviour	insertion:
		Insert as first sibling
		Insert as last sibling
		 Insert as first child Insert as last child
		Insert before
		Insert after
		Replace
3	XPath	Displays the path expression to select a node or a node-set in the XML document.
4	Node type	Select a type for a new node:
		• Element
		Attribute
		 Text Comments
		CData
		Entity reference
		Processing instruction
		• XML
		If the type is set to Attribute , an additional property is added, (Node value) and must be defined as either Text , Xpath , Expression , or JobInfo .
5	Node name	Type a node name.
6	Node name is	Specify the node name by selecting if it is Text , Xpath , Expression or JobInfo (XML only).
7	Namespace	Select the required namespace from the available ones or type your own namespace to define the namespace declaration.
		To create a non-default namespace, type a node name in the <u>Node name</u> text box in the following format: <i><prefix>:<node< i=""> name>.</node<></prefix></i>

Below is a picture illustrating the result of the create action: inserting the Product element to the /products/ XPath as the first child.

	XML Transformer 1 1 - Lasernet XML Transformer Editor 9	– 🗆 X
<u>F</u> ile <u>E</u> dit	Edit <u>X</u> ML <u>A</u> ction <u>V</u> iew <u>H</u> elp	
💾 Sar	Save 🔿 Undo 🔿 Redo 😻 Criteria 🔳 Previous 🗈 Next 🔅 Full	
	Invoice.xml ×	
Select		
Criterion Create Copy Delete Move	<pre></pre>	
Group		► ₽×
1	🔂 Add 😯 Add Group 🎄 Edit 💮 Move Up 🕕 Move Down 😑 Remove 🍸 Filter 🗙 🍳 Text to search fo	or X 🔻 🍸 Filter
Sort	No. Type Inactive Description Details Type T	Time Message
XSLT	V 1 Default 1 S Create Inserting Element 'product' at XPath '/products' as first child	
#		
JobInfos		
•		
Modifier	er	
x		
Validate	te	

3.3.2.2 **Copy**

Due to the number of possible variations that could be encountered when using the copy action, a complex logic is used to ensure that valid XML actions are always observed. The table below shows all of the combinations available using a source XPath, a target XPath, and a behaviour.

Source	Target	Insert as last sibling	Insert as first sibling	Insert as first child	Insert as last child	Insert before	Insert after	Replace
Attribute	Attribute	+	+					+
Attribute	Element	+	+	+	+	+	+	
Attribute	Text types*	+	+			+	+	+
Element	Attribute							
Element	Element	+	+	+	+	+	+	+
Element	Text types*	+	+			+	+	
Text types*	Attribute							+
Text types*	Element	+	+	+	+	+	+	+
Text types*	Text types*	+	+	+	+	+	+	+

* Text types covers: text-nodes, comments, cdata, and entity references.

Attribute → Attribute

Behaviour	Strategy
Insert as first sibling	Replaces the value of the target attribute with the value of the
Insert as last sibling	source attribute. The name of the attribute remains unchanged.
Insert as first child	N/A
Insert as last child	
Insert before	
Insert after	
Replace	Replaces the value of the target attribute with the value of the source attribute. The name of the attribute remains unchanged.

Attribute → Element

Behaviour	Strategy
Insert as first sibling	Adds the source attribute to the attributes of the target.
Insert as last sibling	
Insert as first child	
Insert as last child	
Insert before	
Insert after	
Replace	N/A

Attribute \rightarrow Text types

Behaviour	Strategy
Insert as first sibling Insert as last sibling	Adds a new node of the same type as the target node (text, comment, cdata, or entity ref.) as the first child of the parent of
	the target node.
	Inserts the value of the source attribute as the value of the new node.
Insert as first child	N/A
Insert as last child	
Insert before	Inserts a new node of the same type as the target node (text, comment, cdata, or entity ref.) just before the target node.
	Inserts the value of the source attribute as the value of the new node.
Insert after	Inserts a new node of the same type as the target node (text,

Behaviour	Strategy
	comment, cdata, or entity ref.) just after the target node.
	Inserts the value of the source attribute as the value of the new node.
Replace	Replaces the value of the target node with the value of the source attribute.

Element \rightarrow Attribute

An element may not be copied to an attribute.

Element → Element

All copy methods for an element are recursive. This means that whenever a copy action is performed on an element, the descendents (the contents) of that element are always copied.

Behaviour	Strategy
Insert as first sibling	Adds the source element as the first child of the parent of the target element.
Insert as last sibling	Adds the source element as the last child of the parent of the target element.
Insert as first child	Adds the source element as the first child of the target element.
Insert as last child	Adds the source element as the last child of the target element.
Insert before	Inserts the source element just before the target element.
Insert after	Inserts the source element just after the target element.
Replace	Replaces the target element with the source element.

Element → Text types

Behaviour	Strategy
Insert as first sibling	Adds the source element as the first child of the parent of the target node.
Append as sibling	Adds the source element as the last child of the parent of the target node.
Insert as first child	N/A
Insert as last child	
Insert before	Inserts the source element just before the target node.
Insert after	Inserts the source element just after the target node.
Replace	N/A

Text types → Attribute

Behaviour	Strategy
Insert as first sibling	N/A
Insert as last sibling	
Insert as first child	
Insert as last child	
Insert before	
Insert after	
Replace	Replaces the value of the target attribute with the text value of the source node.

Text types \rightarrow Element

Behaviour	Strategy
Insert as first sibling	Adds the source node as the first child of the parent of the target element.
Insert as last sibling	Adds the source node as the last child of the parent of the target element.
Insert as first child	Adds the source node as the first child of the target element.
Insert as last child	Adds the source node as the last child of the target element.
Insert before	Inserts the source node just before the target element.
Insert after	Inserts the source node just after the target element.
Replace	Replaces the target element with the source node following the steps:
	 Inserts after the target element. Deletes the target element.

Text types \rightarrow Text types

Behaviour	Strategy
Insert as first sibling	Adds the source node as the first child of the parent of the target node.
Insert as last sibling	Adds the source node as the last child of the parent of the target node.
Insert as first child	N/A
Insert as last child	
Insert before	Inserts the source node just before the target node.

Behaviour	Strategy
Insert after	Inserts the source node just after the target node.
Replace	Replaces the value of the target node with the value of the source node.

To apply the copy action, proceed through the steps listed below:

1. On the developer toolbar, click the **Copy** button.



- 2. Once the cursor turns into a plus sign, click the node you want to copy. Then move the rectangle to the place where you want to paste the node.
- 3. With the Add Action dialog displayed, fill in the fields, as required, and then click OK.

	Add Action	×
Common Properties		
Group:	Default 👻	
Inactive:		
Action type:	📓 Сору 👻	
Description:	Optional	
Special Properties		
Behaviour:	Insert as first Child 👻	
Source XPath:	/products/product	
Target XPath:	/products	
Absolute XPath:	✓	
	OK	Cancel

See the table below to learn more about the action properties:

	Property	Description
1	Behaviour	 Select the behaviour of the item to determine its place: Insert as first sibling Insert as last sibling Insert as first child Insert as last child Insert before Insert after Replace
2	Source XPath	Shows the source XPath.
3	Target XPath	Shows the target XPath.

	Property	Description
4	Absolute XPath	Select the check box to indicate the full path in the Target XPath field. If you clear the check box, you must type a relative path in the Target XPath field.

Below is a picture illustrating the result of the copy action.

						XML 1	Transformer 12 - Las	ernet XML Tra	nsformer Editor 9	-	×
<u>F</u> ile <u>E</u> dit	<u>X</u> ML	<u>A</u> ction <u>V</u> iev	v <u>H</u> elp								
💾 Sav	e Č	Undo C	Redo 🛛 🔅	Criteria	Previous	s Next	🔆 Full				
	Invoice	e.xml ×									~
Select		elect Grab Files						1	Save XML		
-		xml version	="1.0" encod	ding="UT	F-8"?>			^	<pre><?xml version="1.0" encoding="UTF-8"?> </pre>		^
Criterion		<product></product>	1						<pre><pre>cproduct></pre></pre>		
0			Product1 <td>ame></td> <td></td> <td></td> <td></td> <td></td> <td><name>MyProductl</name> </td> <td></td> <td></td>	ame>					<name>MyProductl</name>		
Create	</td <td><pre>product> products></pre></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td><pre>v<product></product></pre></td> <td></td> <td></td>	<pre>product> products></pre>						-	<pre>v<product></product></pre>		
								1	<number>1</number> <name>MyProduct1</name>		
Сору									 		
•											
Delete											
† ⊅								•			-
Move	4 Actions							•)⊧ ⊡
Rename		Add 🚹 Ad	d Group	Edit	Move I In		wn CRemove	Filter	×		
	No.	Туре			Description		- Kellove	J THEET			
Group	· ·	1 Defa	ult	Inactive	Description	Details					
1 E		1 🐚 C	ору			Inserting as first	t child XPath '/prod	ucts/produc	t' at XPath '/products'		
Sort											
-											
XSLT											
×											

In addition, you can right-click the node you want to copy and then click **Copy node** on the context menu that appears. Afterwards, right-click the node where you want to paste it and then select the **Paste node** in the context menu. Once you paste the node, the **Copy** action is added to the **Actions** list.

3.3.2.3 Delete

The delete action takes an XPath which returns either a node or a node list to be deleted.

To apply the delete action, proceed through the steps listed below:

1. On the developer toolbar, click the **Delete** button.

0	
Delete	

2. Once the cursor turns into a plus sign, click the node you want to delete.

Below is a picture illustrating the result of the delete action.

	XML Transformer 1 2 - Lasernet XML Transformer Editor 9	- 0	×
<u>F</u> ile <u>E</u> dit	t XML <u>A</u> ction <u>V</u> iew <u>H</u> elp		
💾 Sav	ve 🕐 Undo 🔿 Redo 🛛 ở Criteria 🛛 🔽 Previous 💿 Next. 🔅 Full		
	Invoice.xml ×		~
Select	🔁 Select Grab Files 💾 Save XML		
Criterion	<pre></pre>		-
Create			
- c‡+			*
Move			Þ
T Rename	Actions Add Group Image: Complexity and the second se		đ
	No. Type Inactive Description Details		
Group	V 1 Default		
<u> </u>	1 😑 Delete Deleting at XPath '/products/product'		
Sort			
-			
XSLT			
ADET			
÷			
÷			

3.3.2.4 *Move*

The move action is a combination of a copy action combined with a delete action on the source XPath.

To execute a move action, follow the steps listed below:

1. On the developer toolbar, click the **Move** button.



- 2. Once the cursor turns into a plus sign, click the node you want to move. Then move the rectangle to where you want to paste it.
- 3. With the Add Action dialog displayed, fill in the fields, as required, and then click OK.

	Add Action	×
Common Properties		
Group:	Default 👻	
Inactive:		
Action type:	* [†] * Move ▼	
Description:	Optional	
pecial Properties		
Behaviour:	Insert before 👻	
Source XPath:	/products/product/name	
Target XPath:	/products/product	
Absolute XPath:	V	

Below is a picture illustrating the result of the move action.

		1 1 - Lasernet XML Transformer Editor 9		- o ×	
<u>F</u> ile <u>E</u> di	lit <u>X</u> ML <u>A</u> ction <u>V</u> iew <u>H</u> elp				
💾 Sar	ave 🌔 Undo 🔿 Redo 🛛 🔆 Criteria 🛛 🖸 Previous 💽 Next 🔅 Full				
	Invoice.xml ×				~
Select	Select Grab Files 💾 Save XML	Save XML			
	<pre><?xml version="1.0" encoding="UTF-8"?> </pre>	<pre></pre>	0" encoding="UTF-8"?>		-
Criterion	<pre>v<product></product></pre>	<name>MyProduct</name>	1		
0	<pre><number>l</number> <name>MyProduct1</name></pre>	<pre></pre>	umber>		
Create		<pre> </pre>			
Сору					
Delete					
÷‡÷					
Move					
1					
Rename		·			Ŧ
	↓ Actions		₫ Log	•	×
Group	Add 🚯 Add Group 🔯 Edit 🔿 Move Up 🕔 Move Down 🗖 Remov	ve Filter X	Text to search for	X - Filter	
- <u>E</u>					
Sort	No. Type Inactive Description Details		Type Time Message		
-		luct/name' to before XPath '/products/produc	ť		
XSLT					
#			2		
JobInfos					
-					
Modifier					
×					

In addition, a new Move action is added to the Actions list.

You can also move a node easily by using the right-click context menu. Right-click the node you want to cut and select **Cut node**, then right-click the node that you want to paste and select **Paste node**.

3.3.2.5 *Rename*

The rename action takes an XPath and a node name as parameters. The node or node-set returned by the XPath expression is then renamed to the value you specify.

To apply the rename action, follow the steps listed below:

1. On the developer toolbar, click the **Rename** button.



- 2. Once the cursor turns into a plus sign, click the node you want to rename.
- 3. With the Add Action dialog displayed, type a new name in the corresponding field and then click OK.

	Add Action ×
Common Properties	
Group:	Default 👻
Inactive:	
Action type:	🕂 Rename 👻
Description:	Optional
Special Properties	
XPath to rename:	/products/product
New name:	./name/text()
New name is:	◯ Text
	OK Cancel

Below is a picture illustrating the result of the rename action.

F 1 F -15-		n x
💾 Sav		
Select	Invoice.xml ×	~
Criterion Create Create E Copy Oelete Copy	<pre></pre> <p< td=""><td></td></p<>	
Move Rename	Image: Second	Þ
Group	V I Default Renaming XPath '/products/product' with XPath './name/text()'	
Sort Sort XSLT ×		

3.3.2.6 *Group*

The group action is used for creating new groups in an XML structure according to the parameters you specify. This is convenient if groups are required to create complex calculations based on the unstructured XML data.

To apply the group action, follow the steps listed below:

1. On the developer toolbar, click the **Group** button.



- 2. Once the cursor turns into a plus sign, click the node you want to group.
- 3. Next, click a node value by which you want to group the specified node(s).
- 4. With the Add Action dialog displayed, specify a name for the new node group. Once you are done, click OK.

	Add Action	
Common Properties		
Group:	Default 👻	
Inactive:		
Action type:	জি Group স	
Description:	Optional	
Special Properties		
Nodes to group:	/Root/ItemLine	
Group by (relative):	<pre>salesUnitTxt/text()</pre>	
Group node name:	Group	
	OK Ca	incel

Below is a picture illustrating the result of the group action.

loinfos 		elect iterion ereate ereate electe iterion oroup electe iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup iterion oroup o	<pre>Select Grab Files Save XML </pre> <pre> Select Grab Files Save XML </pre> <pre> CtemLine> </pre> <pre> CitemLine> CitemLine></pre>	*	<pre>Save XML <</pre>	
		;		-		

3.3.2.7 Sort

The sort action is used for sorting nodes in the node list according to the parameters you specify.

To apply the sort action, follow the steps listed below:

1. On the developer toolbar, click the **Sort** button.



- 2. Once the cursor turns into a plus sign, click the node you want to sort.
- 3. Next, click a node value to sort by.
- 4. With the Add Action dialog displayed, select the type to sort (as String or Number), as well as the direction (Ascending or Descending). Once you are done, click OK.

	Add Action ×
Common Properties	
Group:	Default 👻
Inactive:	
Action type:	🚊 Sort 👻
Description:	Optional
Special Properties	
Nodes to sort:	/root/products/product
Sort by (relative):	number/text()
Sort as:	String Number
Direction:	Ascending Descending
	OK Cancel

Below is a picture illustrating the result of the sort action.

		XML Transformer 1 1 - Lasernet XML Transformer Editor 9		- 0
<u>F</u> ile <u>E</u> dit	<u>X</u> ML <u>A</u> ction <u>V</u> iew <u>H</u> elp			
💾 Save	: 🜔 Undo 📿 Redo 🛛 🖑 Criteria 💽 Previous 🕞 Next	🔆 Full		
	XML Transformer.xml ×			
Select	Select Grab Files 💾 Save XML	Save XML		
Select Criterion Create E Copy O Delete Copy Delete Copy Copy Copy Copy Copy Copy Copy Copy	<pre></pre>	<pre></pre>	umber> ame> >1000 umber> ame> >2000 umber> ame>	
XSLT	4	► • •		
# ,	Actions		₫ Log	
JobInfos	🚯 Add 🕒 Add Group 🔹 Edit 🕥 Move Up 🕔 Move D	wn 🤤 Remove 🍸 Filter 🗙	Q Text to search for	× -
Modifier	No. Type Inactive Description Details		Type Time	Message
	V 1 Default		_	
Validate	1 🖹 Sort Sorting '/ro	t/products/product [*] by value in "number/text()' as number (ascending)		

3.3.2.8 XSLT

Using the XSLT action type, you can create advanced transformations. The XSLT action applies an XSLT file. The root node of an XML document normally undergoes the XSL transformation, but different behaviour can be defined in the XSL itself.

To apply the XSLT action, follow the steps listed below:

1. On the developer toolbar, click the **XSLT** button.



2. With the **Add Action** dialog displayed, click the **Add** button to add an XSLT file for transforming the XML input file.

			Add Acti	on		×
Common Prop	erties					
Group:		Default	*			
Inactive:						
Action type	:	XSLT	~			
Description	:	Optional				
Special Proper	ties					
Г	Files					
	Inactive	File Criteria				
	🔂 Ado	d 🔹 Edit	(†) Move up	Move down	n 🕒 Remove	
Output:	(ML/XHTML	*				
					ОК	Cancel

3. With the **File** dialog box displayed, browse the location of the XSLT document you want to add.

Use the **Criteria** tab to add JobInfos and specify criteria, if required. JobInfo criteria provide the user with additional methods for recognizing input data files.

Once you are done, click the **OK** button.

			Add Actio	n		×
Common Prop	perties					
Group:		Default	•			
Inactive:						
Action typ	e:	XSLT	~			
Description	n:	Optional				
Special Prope	erties					
	Files					
	Inactive F	ïle	Criteria			
		ityles.xsl				
			0	0		
	G Add	Edit	(Move up	Move down	P Remove	
Output:	XML/XHTML	Ŧ				
					OK	Cancel

3.3.2.8.1 Output

You can create a wide range of output formats via XSLT. Select **Other** if your output format is not available in the list or **XML/XHTML** (default), **Text**, **CSV** or **HTML**. The selected output format has no influence on the final output, the application only prevents you from adding/running unsupported actions after XSLT is inserted/executed. Only the XML/XHTML formats are able to run additional actions after the stylesheet is processed.

	Files			
	Inactive File	Criteria		
	Styles.xsl			
	🔂 Add 🔯 Edit	Move up	(1) Move down	E Remove
	C Add tedit	Move up	(J) Move down	Remove
utput:	Other	: (†) Move up	(J) Move down	C Remove
utput:	Other	: (†) Move up	(J) Move down	C Remove



3.3.2.9 Create JobInfos

The create JobInfos action allows to create your own JobInfos, i.e. variables.

To create a JobInfo, proceed through the steps listed below:

1. On the developer toolbar, click the **Jobinfos** button.

#
JobInfo

- 2. Once the cursor turns into a plus sign, click the node for which you want to create a JobInfo.
- 3. With the Add Action dialog displayed, fill in the field, as required, and click OK.

	Edit Action >	<
Common Properties		
Group:	Default 👻	
Inactive:		
Action type:	III Create JobInfos 🔻	
Description:	Optional	
Special Properties		
Value XPath:	/root/products/product/number/text()	
Name:		
Use value as name:		
No <u>d</u> e name is:	○ Text	
Trim spaces:		
Log Level:	III JobInfo 🔻	
Replace existing:		
	OK Cancel	

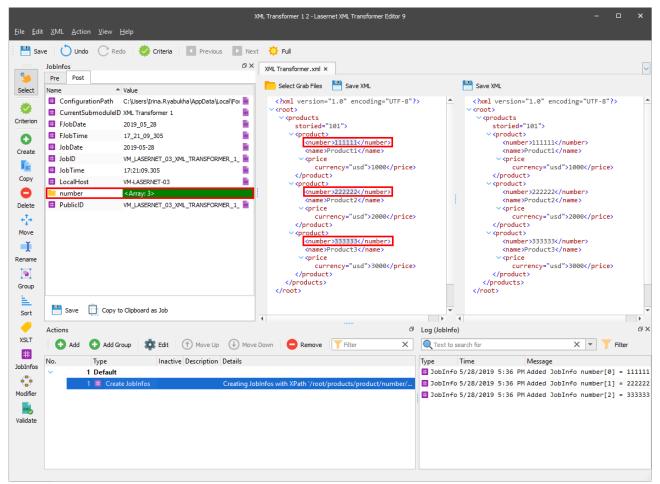
The table below provides a brief description of the action properties:

	Property	Description
1	Value XPath	The XPath value specifies which nodes contain the values for JobInfos.
2	Name	Specify a JobInfo name.
3	Use value as name	Select the check box to apply the Value XPath as a JobInfo name.
4	Replace existing	Select the check box to replace any other JobInfo with the same name. Some JobInfos can contain a list of several values for example, an email distribution list.
5	Node name is	Text – select the radio button to interpret the value indicated in the Name field as text.
		XPath – select the radio button to interpret the value indicated in the Name field as an XPath.
6	Log level	To extract the JobInfos from the document and create them on the current job, you need to specify a category under which the

Property	Description		
	events related to the JobInfo are logged.		
	Jobinfo The events related to the Jobinfo are logged under the Jobinfo category.		
	Debug The events related to the JobInfo are logged und the Debug category.		
	NoLog	The events related to the JobInfo are not logged.	

Properties defined in the **Add Action** dialog, shown above, take all underlying text-nodes in the JobInfos element, regardless of the position within the element. These are values of the JobInfos. The XPath name is relative to the current XPath value. Since the element contains all the text-nodes and the **Use value as name** check box is cleared, the parent (specified as '..') takes the name of the element.

Below is a picture illustrating the list of created JobInfos.



3.3.2.10 Validate

XML validation is a way to verify that data conforms to the associated schema prior to its delivery to another system. The XML Schema describes a valid structure for the XML document.

To apply the validate action, follow the steps listed below:

1. On the developer toolbar, click the **Validate** button.



2. With the **Add Action** dialog displayed, you can clear any **Active** checkbox(es) next to schema bundle(s) that you *do not want to use* during validation.

Inactive:					Add A	tion		×
Inactive: Action type: >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	mmon Pro	operties						
Action type: Validate Description: Optional Sundles Active Name Version Description Url C os 2.1 Universal http://docs.oasis-open.org/ubl/UBL-2.1.html C xml 1.1 XML Sign http://www.w3.org/TR/xmldsig-core NB! Active bundles will only be used if referred in XML.	Group:			Default	•			
Description: Optional Bundles Active Name Version Description Url ✓ os 2.1 Universal http://docs.oasis-open.org/ubl/UBL-2.1.html ✓ xml 1.1 XML Sign http://www.w3.org/TR/xmldsig-core NB! Active bundles will only be used if referred in XML.	Inactive:							
Sundles Active Name Version Description Url ✓ os 2.1 Universal http://docs.oasis-open.org/ubl/UBL-2.1.html ✓ xml 1.1 XML Sign http://www.w3.org/TR/xmldsig-core NB! Active bundles will only be used if referred in XML.	Action ty	pe:		Nalidate	$\overline{\mathbf{v}}$			
Active Name Version Description Url Image: Constraint of the strength of the strengend of the strength of the strength of the	Descriptio	on:		Optional				
Active Name Version Description Url Image: Constraint of the strength of the strengend of the strength of the strength of the	Dunallan	1						
v os 2.1 Universal http://docs.oasis-open.org/ubl/UBL-2.1.html v xml 1.1 XML Sign http://www.w3.org/TR/xmldsig-core NB! Active bundles will only be used if referred in XML.								
Image: Will will will will will will will will						sis-open.org/ubl/l	JBL-2.1.html	
NB! Active bundles will only be used if referred in XML.								
				,				
OK Cancel	NB! Activ	e bund	es will o	nly be used if re	eferred in XML.			
							ОК	Cancel

3. Once you are done, click the **OK** button.

For more details about validation, see XML Validator in Chapter 1.20.22, Developing with Lasernet.

3.3.3 Managing Actions and Groups

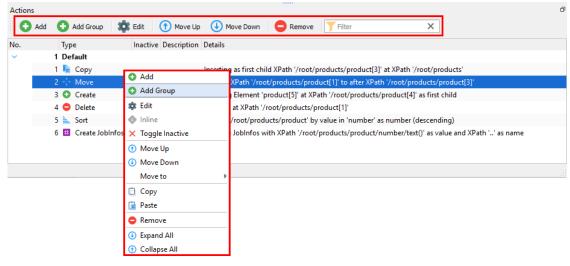
Once you have created an action or a group, it is shown in the **Actions** panel of the **XML Transformer Editor** form. For more details, see *3.1 Overview*.

🔂 Add	🔂 Add Group 🔹 Edit 🕥 M	ove Up 🚯 Move Down 😑 Remove 🍸 Filter X
No.	Type Inactive Descr	iption Details
×	1 Default	
	1 💺 Сору	Inserting as first child XPath '/root/products/product[3]' at XPath '/root/products'
	2 🎲 Move	Moving XPath '/root/products/product[1]' to after XPath '/root/products/product[3]'
	3 😳 Create	Inserting Element 'product[5]' at XPath '/root/products/product[4]' as first child
	4 😑 Delete	Deleting at XPath '/root/products/product[1]'
	5 🛓 Sort	Sorting '/root/products/product' by value in 'number' as number (descending)
	6 🌐 Create JobInfos	Creating JobInfos with XPath '/root/products/product/number/text()' as value and XPath '' as name

Use the panel to add an additional action or a group, edit or remove existing actions/groups, change the order of actions/groups, etc. The following commands are available on the **Actions** panel:

- Add click the button to add an action. With the Add Action dialog displayed, fill in the required fields and click OK.
- Add Group click the button to add a group. With the Action Group Properties dialog displayed, fill in the required fields and click OK.
- Edit click the button to edit the action/group selected in the grid. In addition you can edit the selected action/group by double-clicking. With the Add Action dialog displayed, modify the parameters, if required, and click OK.
- **Move Up** click the button to move the selected action/group up.
- **Move Down** click the button to move the selected action/group down.
- **Remove** click the button to remove the selected action/group.

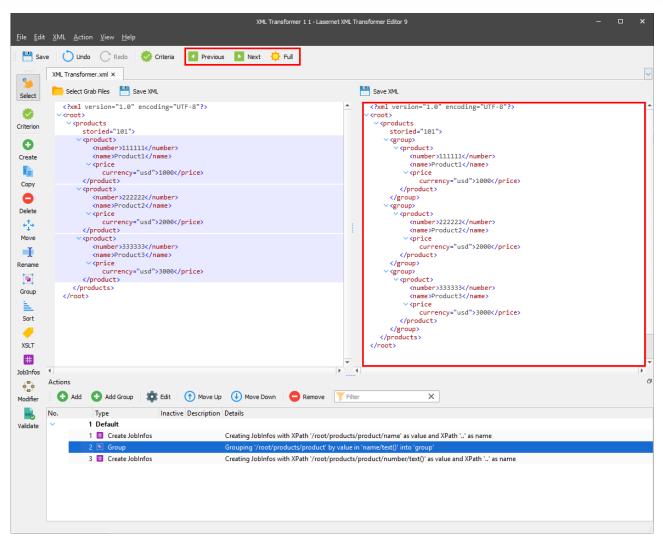
Alternatively, use the context menu to perform any of the actions mentioned above.



In addition, you can also manage actions using the toolbar.



To apply all the actions you have added, click the **Full** button on the toolbar. You can view the final result in the output XML file.



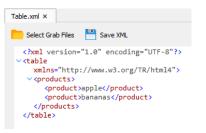
To view the results of the previously applied action, click the **Previous** button.

To view how the next action in the list affects the XML file, click the **Next** button.

3.4 XML Namespaces

XPath 1.0 is unable to find nodes in a default namespace unless the namespace is mapped to a known prefix.

The picture below shows a default namespace. As can be seen in this example, no prefixes are used.



If you are to create an action (e.g. Delete) to any element of the output, it is not transformed. To correctly transform the file, you have to create a namespace.

To add a namespace, follow the steps listed below:

1. On the XML menu, click Namespaces.

<u>F</u> ile <u>E</u> dit	XML Action View Help				
E P Save	📁 Select Grab Files				
📑 Save	Left Select last Grab File from server F12				
	😻 Criteria				
>	Namespaces				
Select 🔅 Options					
<pre></pre>					
<pre>Criterion </pre> <pre></pre> <pre></pre>					

2. With the Namespaces dialog displayed, click the Add button.

	Na	mespaces		×
Name	URI			
🔂 Add 🇱 E	Edit 🔲 Remov	/e		
			Qk	Cancel

3. With the Edit Namespace dialog displayed, type a name for the namespace which is a prefix and URI.

	Edit Namespace				
<u>N</u> ame:	data				
URI:	http://www.w3.org/TR/html4				
	Qk <u>C</u> ancel				

4. Once you are done, click **OK**.

Next, edit the action you have created (e.g. the Delete action). Within the **Add Action** dialog, type a prefix in the **XPath** field for the node, as shown in the picture below:

	Edit Action	×
Common Properties		
Group:	Default 👻	
Inactive:		
Action type:	🗢 Delete 👻	
Description:	Optional	
Special Properties		
XPath:	/ <u>data:</u> table/ <u>data:</u> products/ <u>data:</u> product[1]	
	OK Cancel	

As a result, the action is applied:

	XML Transformer 1 2 - Lasernet XML Transformer Editor 9 - 🗆 🔿				
<u>F</u> ile <u>E</u> di	dit <u>X</u> ML <u>A</u> ction <u>V</u> iew <u>H</u> elp				
💾 Sar	Save 🔿 Undo 🔿 Redo 😻 Criteria 🔳 Previous 💿 Next 🔅 Full				
	Table.xml ×		~		
Select	Select Grab Files 💾 Save XML	Save XML			
Criterion	mlas "http://www.w2.ese/TD/html4">	<pre></pre> <pre> </pre> <pre> <pre> </pre> <pre> <pre> </pre> <pre> <pre> </pre> <pre> <pr< td=""><td>•</td></pr<></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	•		
Create	<product>bananas</product>	 			
Сору			-		
•	Actions		► P×		
Delete ←→	🕐 Add 🕐 Add Group 🔹 Edit 👘 Move Up 🕢 Move Down 😑 Remove 🟹 Filter	X Text to search for X -	>>		
Move		Type Time Message			
I	✓ 1 Default				
Rename	e Delete Deleting at XPath '/data:table/data:products/da	ta:product[1]'			
Group					
1 E					
Sort ×		4	Þ		

In addition, the prefix defined in the **Namespaces** dialog allows you to override any prefix defined in the XML file. This is useful when an incoming XML file uses a default namespace or when the prefixes in the incoming XML file vary from one document to another.

The picture below shows two XML files which contain a common URI and different prefixes.



To override prefix defined in the XML file, follow the steps listed below:

 Open one of the available XML files by clicking the Select Grab Files button in the XML Transformer Editor. Namespaces are automatically added.

To access the list of namespaces which are automatically added, click Namespaces on the XML menu.

		Namespaces		×
Name	URI			
h	http://w	ww.w3.org/TR/htm	nI4	
f	http://w	ww.w3schools.com	n/furniture	
🔂 Add	🔹 Edit 🧲	Remove		
			Qk	<u>C</u> ancel

2. Create an action to apply it to any element of the output (for example, the <u>Delete</u> action), and the output is transformed accordingly.

	Edit Action	×
Common Properties		
Group:	Default 💌	
Inactive:		
Action type:	C Delete -	
Description:	Optional	
Special Properties		
XPath:	/root/h:table/h:products/h:product	
	OK	Cancel

3. Afterwards, the same action is applied to all documents regardless of the prefixes available. As the result, each file is transformed in the same way.

File Edit	XML Transformer 1 2 Int XML <u>A</u> ction <u>V</u> iew <u>H</u> elp	2 - Lasernet XML Transformer Editor 9 -	o x
Sav			~
Select Select Criterion Create	<pre>Select Grab Files Save XML </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> <</pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	<pre>Save XML</pre>	<u></u>
Copy Copy Delete	<pre> finame>African Coffee Table fiwidth>80 fiilength>220 220 20 20 <!--</td--><td><f:name>Affrican Coffee Table</f:name> <f:width>S08</f:width> <f:length>1208</f:length> </td><td></td></pre>	<f:name>Affrican Coffee Table</f:name> <f:width>S08</f:width> <f:length>1208</f:length> 	
1	4		•
Rename	Actions	D Log (Jobinfo)	đΧ
	🕒 Add 😯 Add Group 🗱 Edit 🕥 Move Up 🕔 Move Down 🤤 Rei	emove Filter X Q Text to search for	× • »
Group Sort VSLT JobInfos	No. Type Inactive Description Details Tope Inactive Description Details 1 Default Deleting at XPath /root/httab	ble/h:products/h:product'	
×		4	Þ

3.5 Keyboard Shortcuts

You can use keyboard shortcuts for different operations in Lasernet. A list of keyboard shortcuts is provided in the table below.

Action	Shortcut
Close grab file	CTRL + F4
Switch to right grab	CTRL + Tab
Switch to left grab	CTRL + SHIFT +Tab
Save	CTRL + S
Undo	CTRL + Z
Redo	CTRL + Y
Full	CTRL + A
Switch to Select Tool	CTRL + ALT + S
Add Criterion	CTRL + ALT + K
Add Create Action	CTRL + ALT + C
Add Copy Action	CTRL + ALT + T
Add Delete Action	CTRL + ALT + D
Add Move Action	CTRL + ALT + M
Add Rename Action	CTRL + ALT + R
Add Group Action	CTRL + ALT + G
Add Sort Action	CTRL + ALT + A
Add XSLT Action	CTRL + ALT + H
Add JobInfos Action	CTRL + ALT + P
Add Modifier Action	CTRL + ALT + L
Add Validate Action	CTRL + ALT + V
Find	CTRL + F
Find Next	F3
Find Previous	SHIFT + F3
Show Logger Window	CTRL + SHIFT + L

Grab JobInfos	CTRL + SHIFT + G
Recalculate output	F5