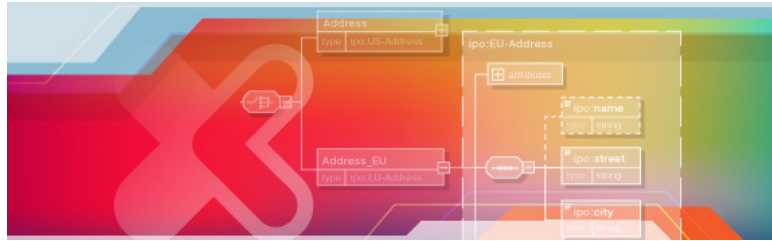


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JSON and XML Editor



Altova XMLSpy is the world's **best selling JSON and XML editor** for modeling, editing, transforming, and debugging related technologies.

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XMLSpy JSON and XML Editor gives developers the tools they need to build the most sophisticated applications with its graphical schema designer, code generation, file converters, debuggers, and profilers for working with XSD, XSLT, XQuery, XBRL, SOAP, and more.



XMLSpy is powered by [RaptorXML®](#) for lightning-fast JSON and XML validation and processing. RaptorXML is also available as a cross-platform server product to power your applications.

XMLSpy Highlights

Developers need a JSON and XML editor that adds value beyond bracket matching and basic validation checking. XMLSpy provides the comprehensive feature set below and includes graphical views, code generators, wizards, and other intelligent JSON and XML editing functionality that help you get the job done faster than ever.

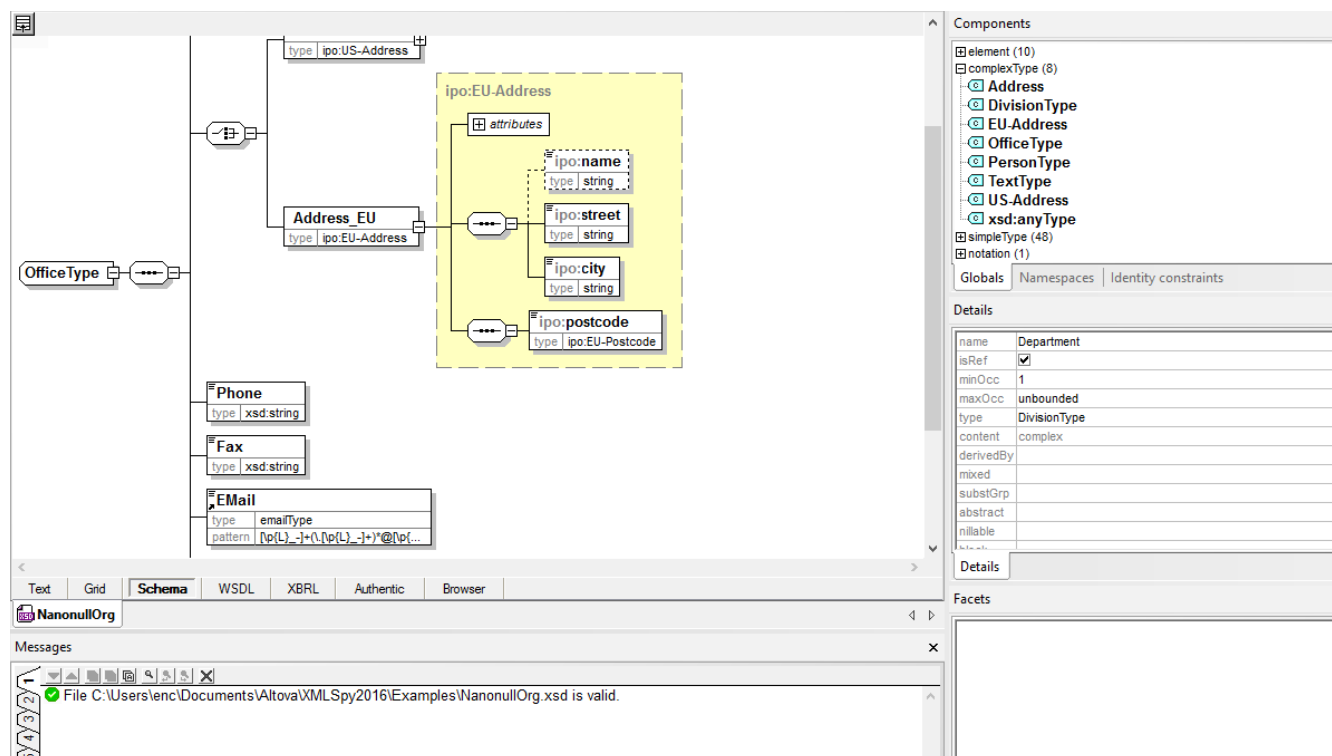
[JSON editor & JSON Schema editor](#)
[JSON transformation with XPath, XSLT, XQuery](#)
[Edit XML documents](#)
[SmartFix XML validation](#) & error correction
[XML Schema editor](#)
[XSLT editor](#)
[XSLT debugger & profiler](#)
[XSL Speed Optimizer](#)
[XPath / XQuery builder & evaluator](#)
[XQuery editor](#)
[XSLT / XQuery back-mapping](#)
[XPath / XQuery debugger](#)
[XQuery Update Facility editor](#)
[3-Way diff/merge](#)
[XBRL tools](#)
[WSDL editor](#)
[SOAP client & debugger](#)
[Database integration](#)
[Java, C#, and C++ code generation](#)
[Apache Avro tools](#)
[Visual Studio & Eclipse eclipse](#)
[Open XML \(OOXML\) support](#)
[Chart generation](#) based on XML data
[SharePoint®](#) Server integration
 Integration with installed RaptorXML Servers for [super-fast processing](#)

Check out this overview of XML and JSON Tools in XMLSpy  Editor



**XML & JSON
Editor**

XML Editor



Text and Graphical XML Editing Views

XMLSpy abstracts away the complexity of editing [XML](#) and related technologies through its intuitive user interface and rich variety of views and options. Whether you prefer to edit XML documents in a text-based or graphical [XML viewer](#), XMLSpy provides intelligent guidance and entry-helpers as you type, and troubleshooting is fast and easy with the industry's most standards-conformant XML validator.

XML Grid View

/comparison/phone [@price >500 and @price <1000]

phone (5)	name	price	Dimensions_mm	Weight
1	Apple iPhone 12 Pro Max	1217.50	<div> <div><1></div> <div> <div>length</div> <div>width</div> <div>height</div> </div> <div>160.8</div> <div>78.1</div> <div>7.4</div> </div>	228
2	Samsung Galaxy S21 Ultra 5G	1249	<div> <div><1></div> <div><Dimensions_mm length="165.1" width="</div> </div>	229
3	OnePlus 7 Pro	655.90	<div> <div><1></div> <div><Dimensions_mm length="162.6" width="</div> </div>	206
4	Google Pixel 5	720	<div> <div><1></div> <div><Dimensions_mm length="144.7" width="</div> </div>	151

XML Grid View displays the XML document structure using a set of nested containers that reflects its hierarchical structure. It also includes table view that rearranges repeating elements in a table for easy viewing and sorting. By default, XML Grid View uses attributes and child elements for the columns, and shows repeating XML element as row - but you can flip rows and columns to adapt the display based on the type of data the file.

XML Grid makes XML editing faster and more powerful than when using a text editor alone. Advanced features include:

- Automatic image display
- Easy creation of XPath filters
- XQuery formulas to calculate a result or generate a nodeset
- Pasting content from external apps (text editor, Visual Studio/Eclipse, Excel...)

XML Grid will revolutionize the way you edit XML documents. Take a look at this quick video demo.



```

1 <expense-report xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="ExpReport.xsd"
2   currency="USD" detailed="false" total-sum="556.9">
3
4   <Person>
5     <First>Fred</First>
6     <Last>Landis</Last>
7     <Title>Project Manager</Title>
8     <Phone>123-456-7890</Phone>
9     <Email>f.landis@nanonull.com</Email>
10  </Person>
11  <expense-item type="Lodging" expto="Sales">
12    <Date>2003-01-01</Date>
13    <expense>122.11</expense>
14  </expense-item>
15  <expense-item type="Meal" expto="Support">
16    <Date>2003-01-02</Date>
17    <expense>13.22</expense>
18    <M
19  </ex
20  <ex
21  <
22  <
23  <
24  <
25  <
26  <
27  <
28  <
29  <
30  <expense-item type="Entertainment" expto="Development">
31  <expense-item type="Entertainment" expto="Development">
32    <Date>2003-01-02</Date>
33    <expense>13.22</expense>
34    <Misc miscstype="TeamBuilding"/>
35    <description>Spa day</description>
36  </expense-item>
37  <expense-item type="Transportation" expto="Development">
38    <Date>2003-01-02</Date>
39    <expense>Airport parking</expense>
40    <description>Parking for one week</description>
41  </expense-item>
42  </expense-report>
43
44
45
46
47

```

Elements

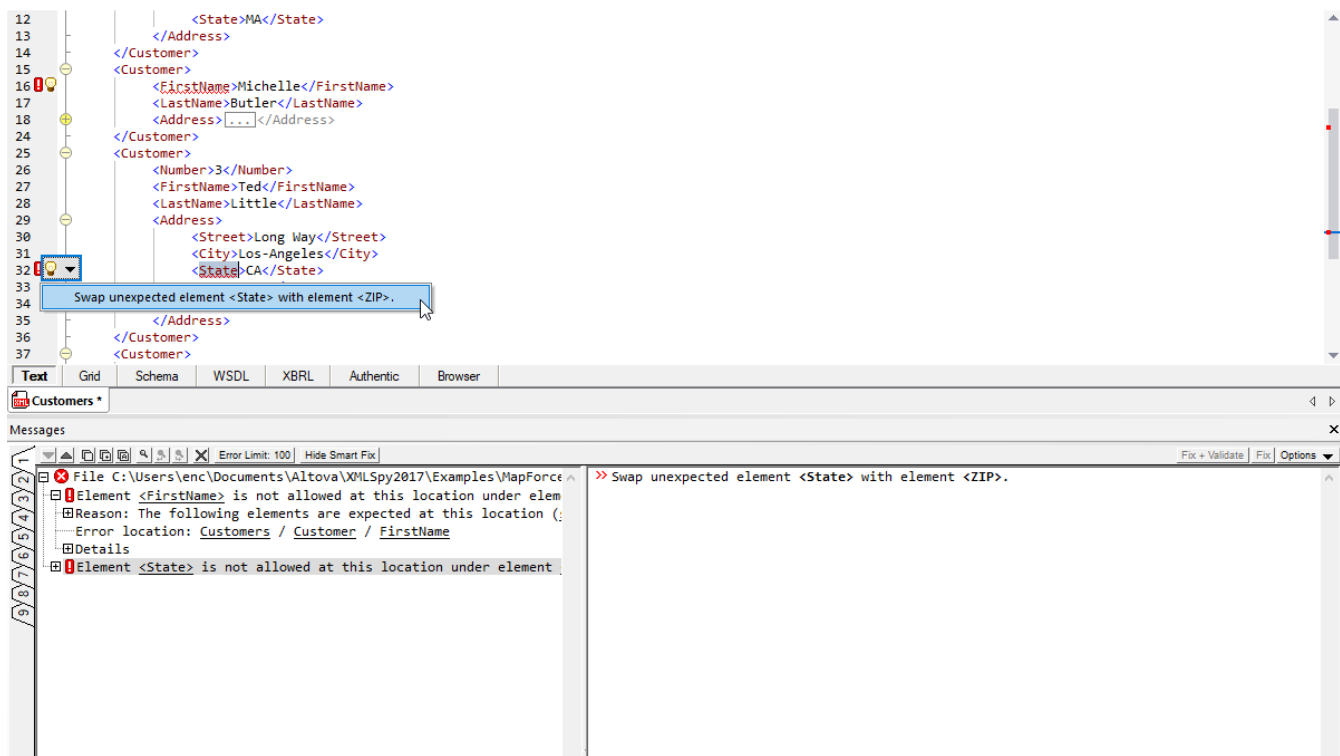
- Misc
- Meal
- Lodging
- Travel
- Parking
- Entertainment
- description
- Date
- expense

Attributes

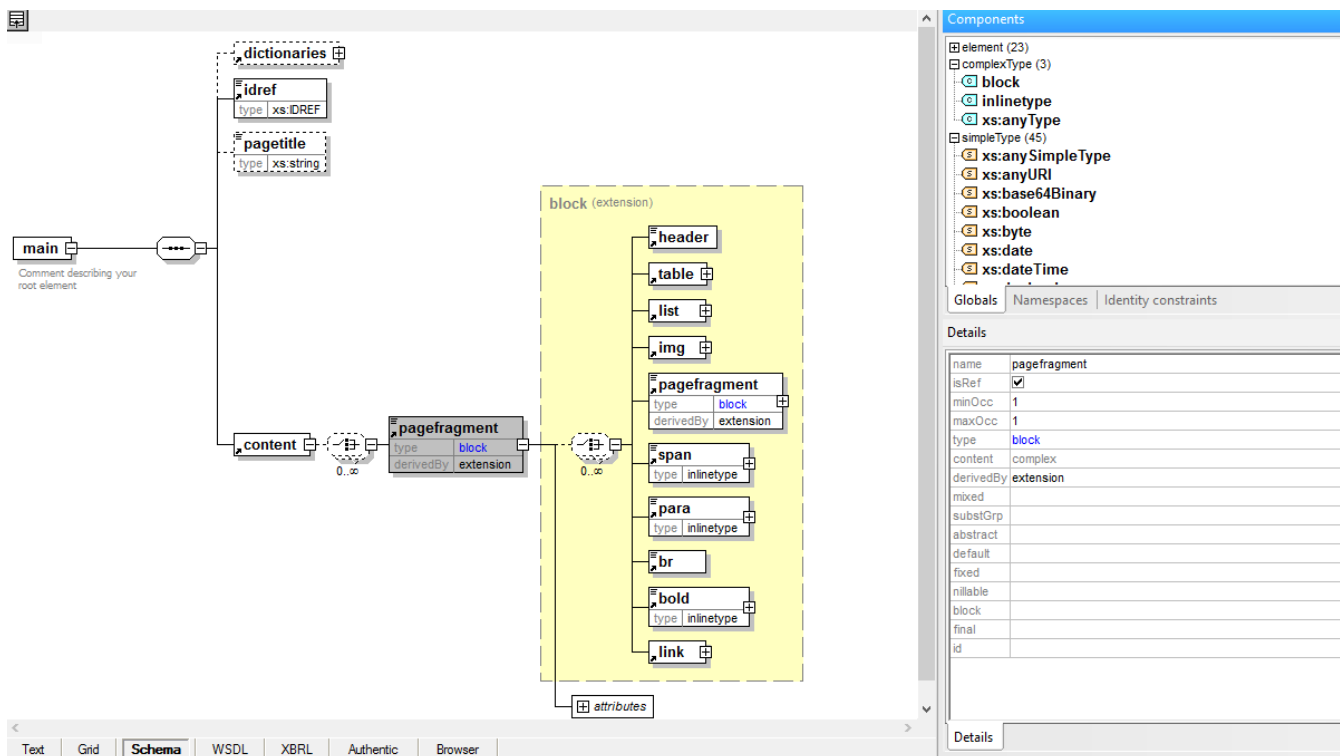
Entities

- Ent amp
- Ent apos
- Ent gt
- Ent lt
- Ent quot

As you work, XMLSpy provides **Smart Fix XML validation**, a process that detects errors - and then enumerates the possible corrections for fixing them, which you can choose to implement in your XML document with one click. That's right - XMLSpy will make the corrections automatically, based on your selection. Because the [XML validator](#) can make the corrections automatically, it saves you significant time and frustration associated with resolving validation issues.



XML Schema Editor



The graphical XML Schema editor in XMLSpy allows you to create schemas in a visual, drag-and-drop manner, so you can focus on the semantics of your schema while leaving the syntactical details of the [XML Schema language](#) to XMLSpy. In addition to rich XML Schema 1.0 and 1.1 editing and validation, the following XSD tools are provided:

- Generation of XSD from XML instance, DTD, JSON Schema, or relational databases
- Sample instance generation from XSD
- Java, C#, and C++ code generation based on XML Schema
- Schema flattener and schema subset generation
- Extended validation of naming & coding conventions
- Schema refactoring



Need to Learn XML Schema 1.1?

Check out our free, online XML Schema Tutorial and Training

[LEARN MORE...](#)

JSON Tools

The screenshot displays the XMLSpy JSON Editor interface. The main window shows two JSON objects in a grid view. The first object is for Queen's 'A Night at the Opera' and the second is for 'A Day at the Races'. Both objects have a 'Tracks' array containing track information. The interface includes a left sidebar with 'Validation against schema' and 'options' (with 'Enable JSON intelligent editing' checked). The right sidebar shows 'JSON Properties' and 'JSON Values'. The bottom status bar indicates 'Text', 'NEW Grid', and 'Schema' views.

Name	Genre	ReleaseDate	Label	Tracks																																	
"A Night at the Opera"	Rock	1975-11-21	EMI / Hollywood Records	<table border="1"><thead><tr><th>Title</th><th>Duration</th><th>Writer</th></tr></thead><tbody><tr><td>"39"</td><td>03:25</td><td>Brian May</td></tr><tr><td>"Sweet Lady"</td><td>04:01</td><td>Brian May</td></tr><tr><td>"The Prophet's Song"</td><td>08:17</td><td>Brian May</td></tr><tr><td>"Good Company"</td><td>03:26</td><td>Brian May</td></tr></tbody></table>	Title	Duration	Writer	"39"	03:25	Brian May	"Sweet Lady"	04:01	Brian May	"The Prophet's Song"	08:17	Brian May	"Good Company"	03:26	Brian May																		
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"The Prophet's Song"	08:17	Brian May																																			
"Good Company"	03:26	Brian May																																			
"A Day at the Races"	Rock, Pop	1976-12-10	EMI, Parlophone / Elektra, Hollywood	<table border="1"><thead><tr><th>Title</th><th>Duration</th><th>Writer</th></tr></thead><tbody><tr><td>"Tie Your Mother Down"</td><td>04:48</td><td>Brian May</td></tr><tr><td>"You Take My Breath Away"</td><td>05:09</td><td>Freddie Mercury</td></tr><tr><td>"Long Away"</td><td>03:34</td><td>Brian May</td></tr><tr><td>"The Millionaire Waltz"</td><td>04:54</td><td>Freddie Mercury</td></tr><tr><td>"You and I"</td><td>03:25</td><td>John Deacon</td></tr><tr><td>"Somebody to Love"</td><td>04:56</td><td>Freddie Mercury</td></tr><tr><td>"White Man"</td><td>04:59</td><td>Brian May</td></tr><tr><td>"Good Old-Fashioned Lover Boy"</td><td>02:54</td><td>Freddie Mercury</td></tr><tr><td>"Drowse"</td><td>03:45</td><td>Roger Taylor</td></tr><tr><td>"Teo Torriatte (Let Us Cling Together)"</td><td>05:50</td><td>Brian May</td></tr></tbody></table>	Title	Duration	Writer	"Tie Your Mother Down"	04:48	Brian May	"You Take My Breath Away"	05:09	Freddie Mercury	"Long Away"	03:34	Brian May	"The Millionaire Waltz"	04:54	Freddie Mercury	"You and I"	03:25	John Deacon	"Somebody to Love"	04:56	Freddie Mercury	"White Man"	04:59	Brian May	"Good Old-Fashioned Lover Boy"	02:54	Freddie Mercury	"Drowse"	03:45	Roger Taylor	"Teo Torriatte (Let Us Cling Together)"	05:50	Brian May
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"Drowse"	03:45	Roger Taylor																																			
"Teo Torriatte (Let Us Cling Together)"	05:50	Brian May																																			

XMLSpy includes an intuitive [JSON viewer](#) and JSON editor with support for JSON, JSON5, JSON Lines, and JSON Comments, allowing you to view and edit JSON files using the same intuitive Text and Grid Views available for XML editing, with useful editing guides and entry helpers. The [JSON editor](#) provides:

- Revolutionary JSON Grid editor
- Support for JSON, JSON5, JSON Lines, JSON with Comments (JSONC)
- Context sensitive entry-helpers and other intelligent editing tools
- JSON syntax checking
- JSON validator
- JSON to XML conversion
- [XML to JSON](#) conversion
- Querying/transforming JSON with XPath, XQuery, XSLT
- Chart creation from JSON data

JSON Editor: Grid View

A revolutionary, first-of-its-kind JSON editing environment is provided by XMLSpy JSON Grid View. JSON Grid provides a graphical representation of the JSON document structure that is immediately easier to understand than the corresponding JSON code in text view, especially for long, complex documents with multiple nested levels of arrays and objects. Advanced features such as automatic type detection, in-cell commands, XQuery filters for modifying the view, XQuery formulas for generating additional output from the JSON data, and more, combine to make JSON editing faster and easier than a text-based JSON editor. JSON Grid even allows you to create charts from JSON data.

1	Name	"08" A Night at the Opera		
	Genre	"08" Rock		
	ReleaseDate	"08" 1975-11-21		
	Label	"08" EMI / Hollywood Records		
	Tracks			
		Title	Duration	Writer
	1	"08" Death on Two L	"08" 03:43	"08" Freddie Mercur
	2	"08" Lazing on a Sur	"08" 01:08	"08" Freddie Mercur
	3	"08" I'm in Love with	"08" 03:05	"08" Roger Taylor
	4	"08" You're My Best f	"08" 02:50	"08" John Deacon
	5	"08" '39	"08" 03:25	"08" Brian May
	6	"08" Sweet Lady	"08" 04:01	"08" Brian May
	7	"08" Seaside Rendez	"08" 02:13	"08" Freddie Mercur
	8	"08" The Prophet's S	"08" 08:17	"08" Brian May
	9	"08" Love of My Life	"08" 03:38	"08" Freddie Mercur
	10	"08" Good Company	"08" 03:26	"08" Brian May
	11	"08" Bohemian Rhap	"08" 05:55	"08" Freddie Mercur
	12	"08" God Save the Q	"08" 01:11	"08" Traditional, arr.

2	Name	"08" A Day at the Races		
	Genre	"08" Rock		
	ReleaseDate	"08" 1976-12-10		
	Label	"08" FMI Parlophone / Elektra Hollywood		

Watch the JSON Grid Demo



JSON Charts

In addition to utilizing XQuery for filters and formulas in JSON Grid, you can use it to create charts from numerical JSON data.

```
// This file demonstrates the new features in JSON Grid View.
// Switch to Grid View to enjoy new features like filters and formulas.

{
  "Temperatures": [
    { "Month": "January", "Min": -5, "Max": 3 },
    { "Month": "February", "Min": -16, "Max": 12 },
    { "Month": "March", "Min": -1, "Max": 15 },
    { "Month": "April", "Min": 5, "Max": 20 },
    { "Month": "May", "Min": 10, "Max": 25 },
    { "Month": "June", "Min": 15, "Max": 30 },
    { "Month": "July", "Min": 20, "Max": 35 },
    { "Month": "August", "Min": 25, "Max": 30 },
    { "Month": "September", "Min": 20, "Max": 25 },
    { "Month": "October", "Min": 15, "Max": 20 },
    { "Month": "November", "Min": 10, "Max": 15 },
    { "Month": "December", "Min": 5, "Max": 10 }
  ]
}
```

ChartConfig

```
{
  "title": "Temperatures",
  "kind": "LineChart",
  "width": 800,
  "height": 600
}
```

Chart

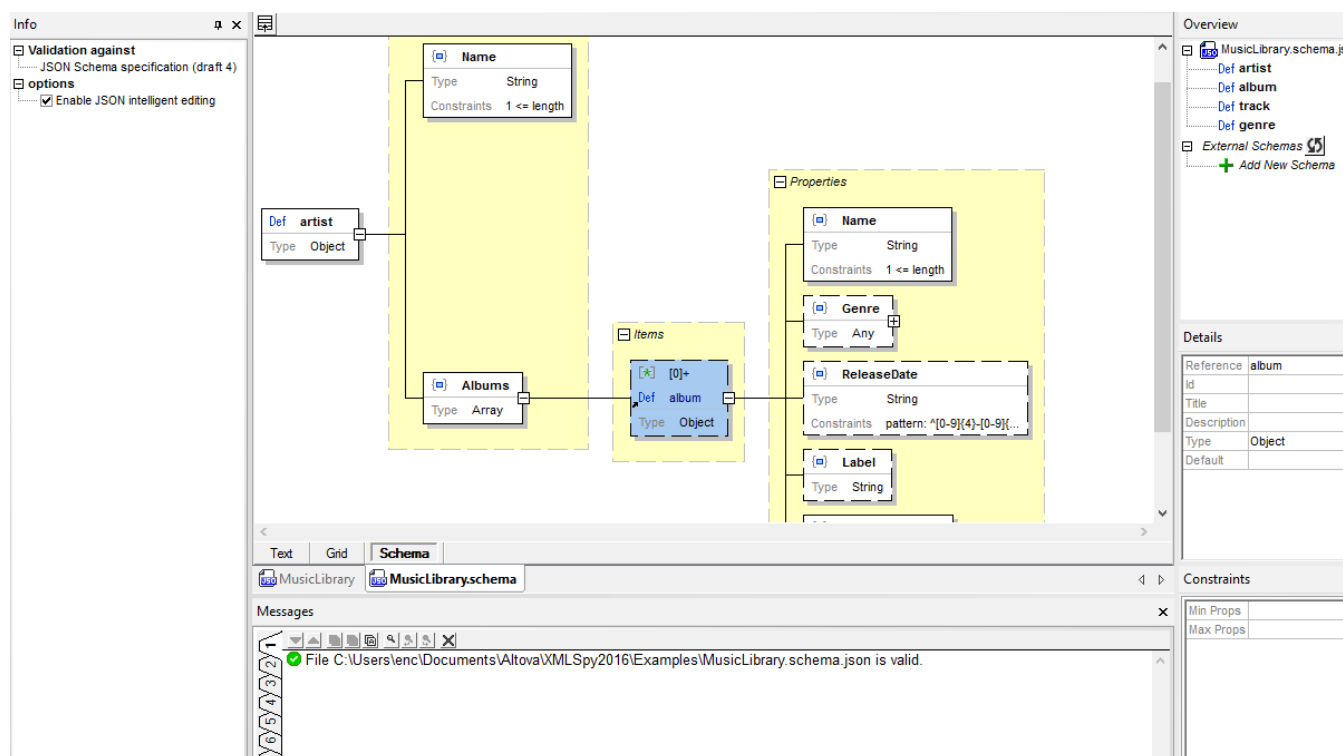
```
let $temps := ?Temperatures?* return
altovaext:chart(?ChartConfig,
  (
    (:name, X-axis, Y-axis :)
    [ 'Min', $temps?Month, $temps?Min ],
    [ 'Max', $temps?Month, $temps?Max ],
    (: Calculate average per each min/max
      using mapping operator ! :)
    [ 'Avg', $temps?Month, $temps ! avg(?Min, ?Max) ]
  )
)
```

After configuring a chart function, the save icon embeds the chart in the JSON file as a base-64 encoded image. Or, simply right-click on the chart to save it in an

image file such as .png or .jpg.

No other JSON editor offers anything even close to this functionality!

JSON Schema Editor



Just as XMLSpy pioneered the first graphical XML Schema editor, it now also includes the first enterprise-grade, graphical [JSON Schema editor](#) to greatly speed schema generation, development, and validation for developers working with JSON.

JSON Schema View will be immediately familiar to XMLSpy customers who've used XML Schema View and are now learning to design JSON Schemas, while at the same time being easy to comprehend for new users. Use the JSON Schema editor for:

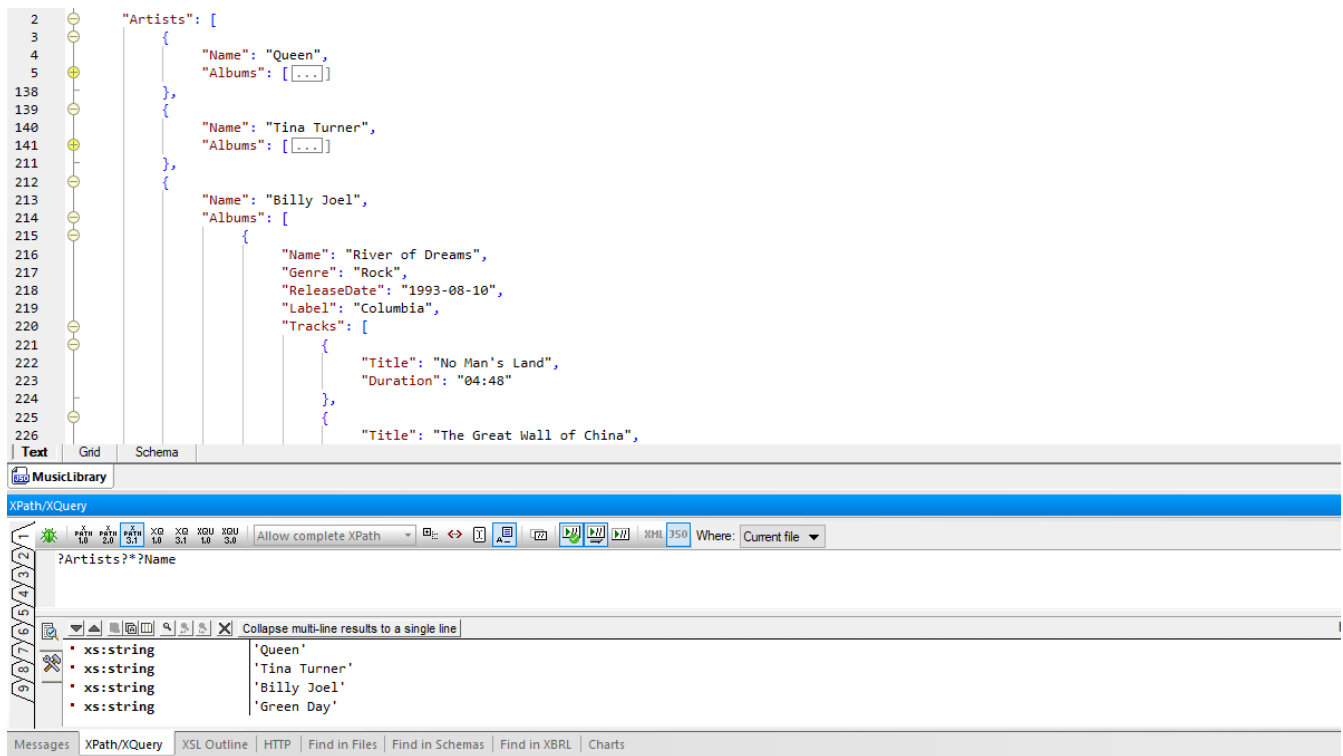
- Drag-and-drop JSON Schema editing & validation
- XML Schema <=> JSON Schema conversion
- Generation of JSON instance files from JSON Schema
- JSON Schema documentation generation

Querying & Transforming JSON with XPath, XSLT, XQuery

Despite the growing popularity of JSON, there isn't a widely used language for querying and transforming JSON data. Luckily, functionality added to XPath/XQuery 3.1 provides a means for targeting JSON maps, arrays, and objects, offering a standardized way to query and transform JSON data using these familiar languages.

XMLSpy makes it easy to [process JSON documents with XPath, XSLT, and XQuery](#) using intelligent editors and the interactive XPath/XQuery Builder & Evaluator Window. Functionality includes:

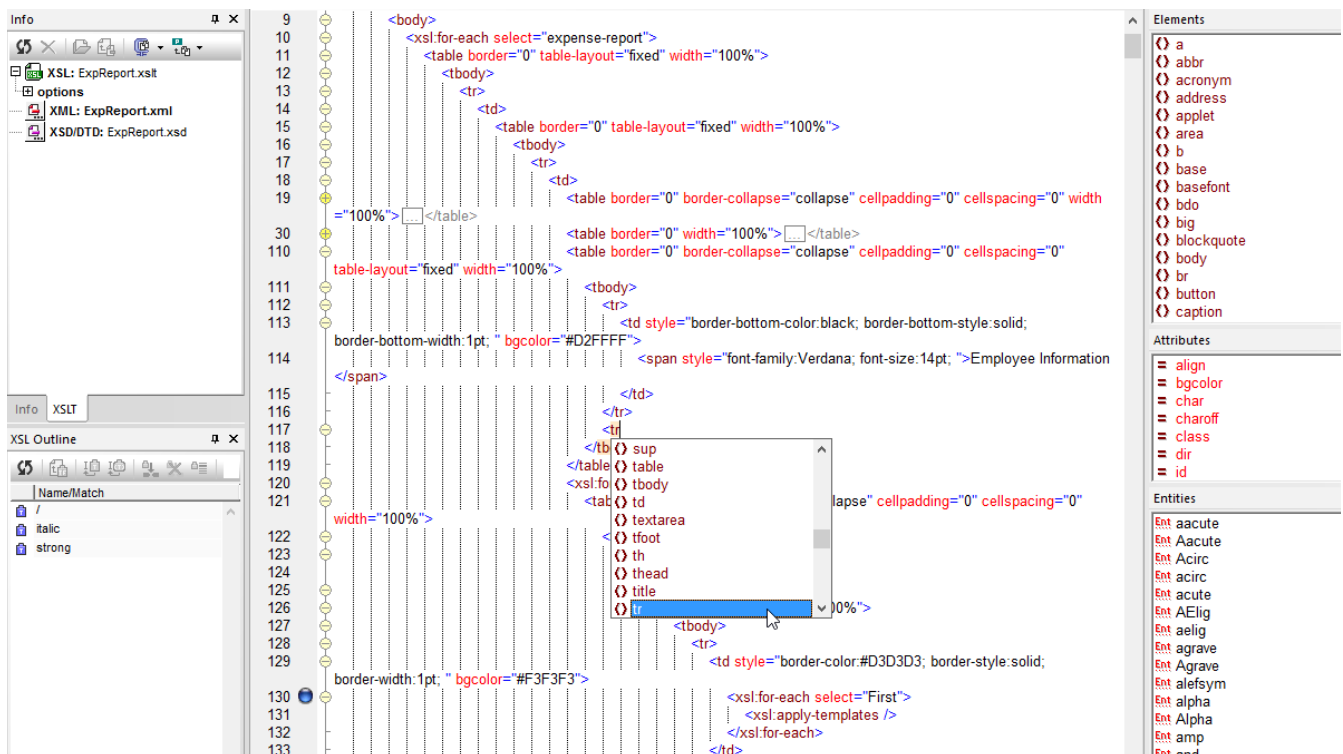
- Querying JSON documents with XPath 3.1 or XQuery 3.1 in the XPath/XQuery window
- Transforming JSON documents with an XSLT 3.0 or XQuery 3.1 file



Learn How to Query JSON with XSLT and XPath/X



XSL and XSLT Tools



XSLT Editor

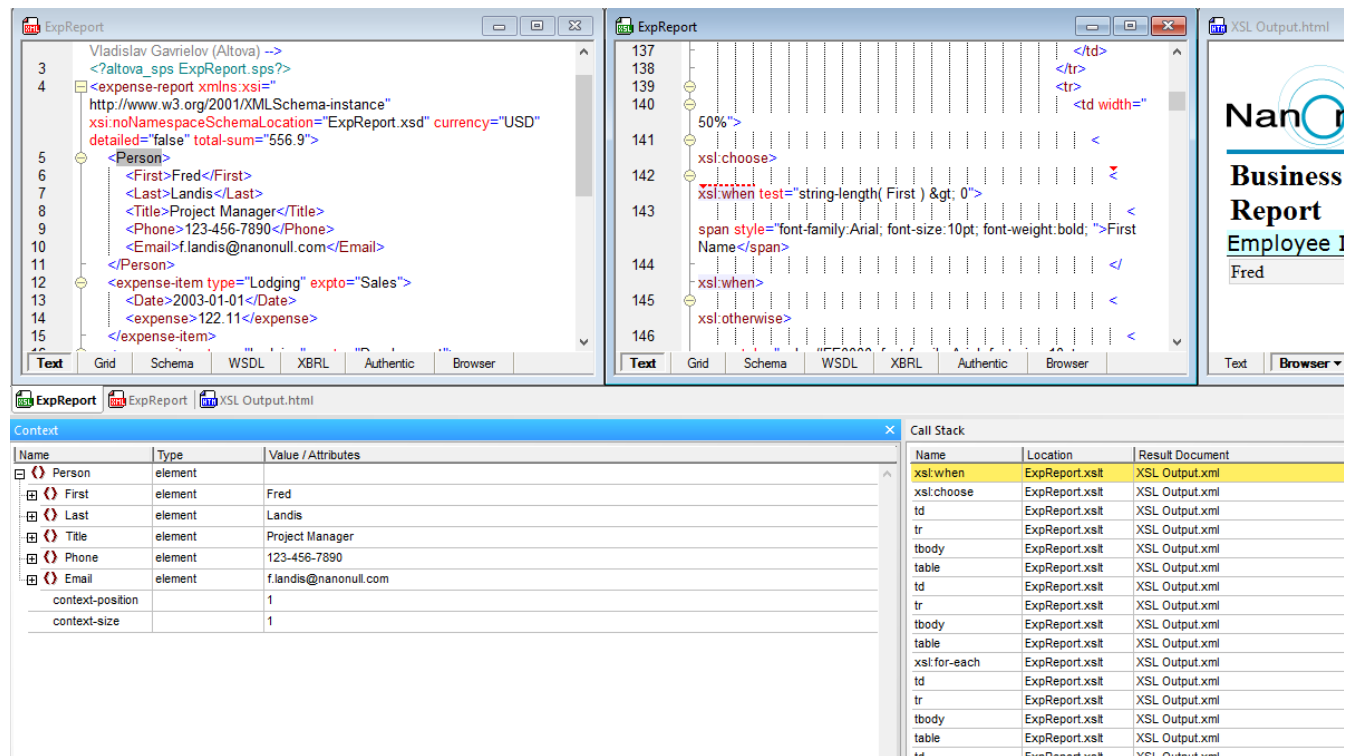
The JSON and XML Editor provides complete support for XSL and XSLT development in its [XSLT editor](#) with context-sensitive entry helpers, an XSL outline window, and more.

For transformation, seamless integration with installed RaptorXML Servers delivers hyper-performance functionality coupled with strict conformance to W3C standards, including XSLT, XPath, and XQuery versions 1.0, 2.0, and 3.1. This allows you to take advantage of super-fast transformations during development and testing, all directly inside XMLSpy.

XMLSpy even includes intelligent [HTML / HTML5 and CSS / CSS3 editors](#) along with an integrated browser view.

XSLT Debugger and Profiler

Testing and perfecting XSLT stylesheets can be a complicated, time-consuming process. With the XMLSpy [XSLT debugger](#), you can step through and debug even the most intricate stylesheets quickly and easily. Support for XSLT 1.0, XSLT 2.0, and XSLT 3.0 is provided, and you can even debug stylesheets that contain program code in Java, C#, JavaScript, or VBScript.



The XMLSpy XSLT profiler is an invaluable tool for optimizing the performance of your XSLT code. Based on the information revealed by the XSLT profiler, you can immediately see which parts of your XSLT code are taking the most time to process and adjust them accordingly to fully optimize your XSLT stylesheets.

XSL Speed Optimizer

The XSLT profiler delivers important information for expert XSLT developers, but if you want to speed up XSLT execution time without manually changing your XSLT and XPath code, try the XSL Speed Optimizer.

The XSL Speed Optimizer in XMLSpy is a revolutionary, patented approach to speeding up XSLT transformations, providing tremendous increases in throughput with no manual analysis required to determine exactly which XSLT or XPath expressions are causing bottlenecks.

XSLT and XQuery Back-mapping

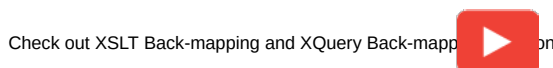
The screenshot displays three windows from an XSLT transformation process:

- Left Window (ExpReport):** Shows the XSLT code. The output is an HTML form titled "Business Expense Report". It includes fields for "First", "Last", "Title", "Phone", and "Email". The "Expense" section has a "type" attribute set to "Lodging" and an "expto" attribute set to "Sales". The "Description" field contains "Played penny arcade".
- Middle Window (ExpReport):** Shows the XSLT code with a blue selection box around the currency selection logic. The code uses an `if` statement to select the currency based on the `@currency` attribute. The selected currency is "USD".
- Right Window (ExpReport):** Shows the resulting HTML output. The "Business Expense Report" form is rendered. The "Currency" field is set to "Dollars" (selected with a radio button). The "Expense" section is set to "Lodging" and "Sales". The "Description" field contains "Played penny arcade".

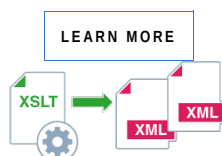
Because XSLT and XQuery documents are frequently long and complex, it can be difficult to identify the source of unintended output. For targeted debugging, back-mapping makes it easy to immediately correlate output elements to source nodes and instructions.

With back-mapping enabled, XSLT transformations and XQuery executions are carried out so that the result document can be mapped back on to the originating XSLT+XML or XQuery+XML documents. When you click on a node in the result document, the XSLT instruction and the XML source data that generated that particular result node will be highlighted.

Back-mapping in XMLSpy is revolutionary in two ways. First, it saves developers considerable time in debugging, refining, and perfecting their code as well as understanding inherited code written by other team members. Second, XMLSpy does not make any changes or add additional code to the output document in order to achieve back-mapping.



Free XSLT Tutorial and Training



Generate XSLT for XML to XML data mapping

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Generate XSLT for multi-channel publishing

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XPath and XQuery Tools

The screenshot shows the XMLSpy XPath/XQuery editor. The main window displays an XML document with a tree view on the left and a text editor on the right. The text editor shows an XPath expression: `for $i in //Customer [contains (Address/State, "CA") return con...`. A context menu is open over the `contains` function, listing various XPath functions such as `concat`, `contains`, `contains-token`, `map-contains`, `altovaext:add-seconds-to-dateTime`, `altovaext:add-seconds-to-time`, `seconds-from-dateTime`, and `seconds-from-duration`. A tooltip for the `concat` function is visible, stating: "Returns the concatenation of the string values of the arguments." Below the text editor, there are two panels: 'Select Operator/Expression' and 'Select Function'. The 'Select Function' panel is active, showing a list of functions categorized by type (Boolean, Constructors, Context, etc.).

XPath/XQuery Windows

The XPath and XQuery window makes it easy to build and test your XPath/XQuery expressions as you compose them with built-in Builder and Evaluator windows. Helpful functionality to speed development is provided through:

[XPath builder and tester](#)

XQuery builder and tester

Point-and-click expression building

Mouse over hints

Enhanced entry helpers

Ready to use code snippets

Nine tabs for incremental expression building

Builder mode for intelligent XPath editing

Evaluator mode for instantly viewing results

Evaluating XPath/XQuery against XML and JSON

Watch this demo of XPath editing and testing tools in



XQuery Editor

For working with large XQuery documents, XMLSpy provides native support for XQuery 1.0 and XQuery 3.1 with all the intelligent editing functionality you need to edit

XQuery documents quickly and easily. Support for schema-awareness in the XQuery editor allows you to harness the full power of XQuery through mechanisms for error isolation, simplified debugging, and enhanced code performance.

XPath/XQuery Debugger

The powerful XPath and XQuery window also includes a powerful Debugger for testing, troubleshooting, and perfecting your XPath/XQuery to save time and reduce frustration.

The debugger lets you go step-by-step through the evaluation of your XPath or XQuery expression. Each click shows you the results for the corresponding step of the evaluation, and you can step into, step out, and step over evaluation steps using helpful buttons in the debugger toolbar.

```
1 declare function summary($book-or-section as element(*)
2   as element() {
3   Step into (F11)
4   {
5     for $section in $book-or-section
6     return
7       <section>
8         {
9           { $section/@* }
10          { $section/title }
11          <figcount>
12            { count($section/figure) }
13          </figcount>
14          { local:section-summary($section/section) }
15        }
16      }
17    }
18  }
19  for $s in /book/section
20  return local:section-summary($s)
21 </toc>
```

Name	Type	Value
section	element	
id	attribute	intro
difficulty	attribute	easy
title	element	Introduction
p	element	Text ...
section	element	
title	element	Audience
p	element	Text ...
section	element	
title	element	Web Data and the Two Cultures
p	element	Text ...
figure	element	height="400" width="400"
p	element	Text ...
book-or-section	element	
section	element	id="intro" difficulty="easy"

An advanced **XQuery Profiler** is also provided, helping you analyze and optimize your XQuery code performance.

XQuery Back-mapping

Targeted debugging is also provided via [XQuery back-mapping](#).

XQuery Update Facility Editor

The XPath/XQuery window in the XML Editor also supports editing XQuery Update (XQU) Facility 1.0 and 3.0 statements with advanced functionality for composing XQuery Update Facility expressions with full syntax coloring, intelligent code completion, and error message reporting.

The results pane lets you preview the results of the changes, and clicking on a result in the preview pane highlights the affected node in your instance document. Then, you can execute the updates with one click, either in the current file or across all open files, a folder, or an entire XMLSpy project. This functionality is unique to XMLSpy.

Watch the XQuery Update Facility Editor in action



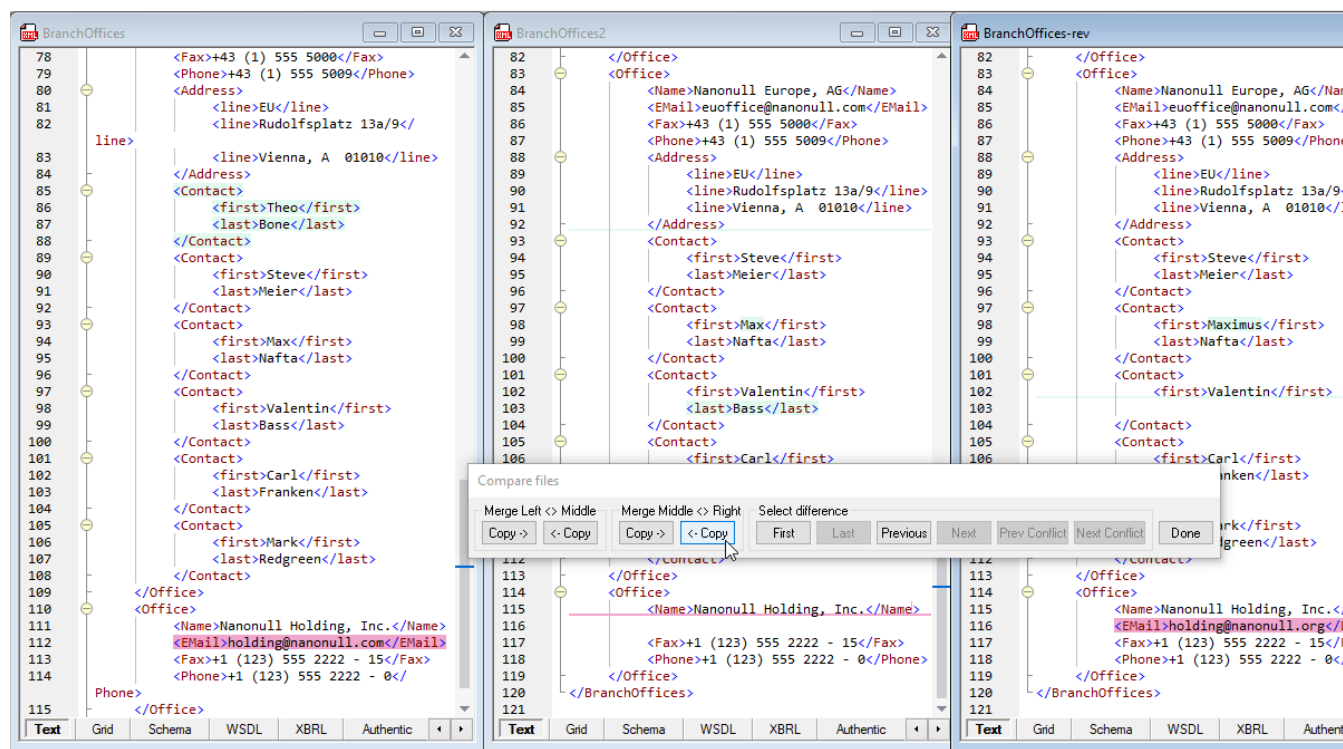
Compare JSON and XML Documents

XMLSpy includes powerful diff/merge tools to compare JSON documents and other text files, as well as directories. For file comparisons, 2- and 3-way comparisons are supported. Users can edit documents and merge changes in either direction.

Compare XML

For XML comparisons, the XMLSpy XML editor includes a visual [XML compare tool](#) that allows developers to easily compare XML and merge documents and directories in an intelligent, XML-aware manner.

The XML-aware diff/merge options are completely customizable. For example, you can specify if entities should be resolved, if namespace prefixes, whitespace, CDATA, processing instructions, comments, or the ordering of attributes/child elements should be ignored or not, and how to visualize differences. In addition, you can merge the textual differences and differences in XML between files as you are comparing them.

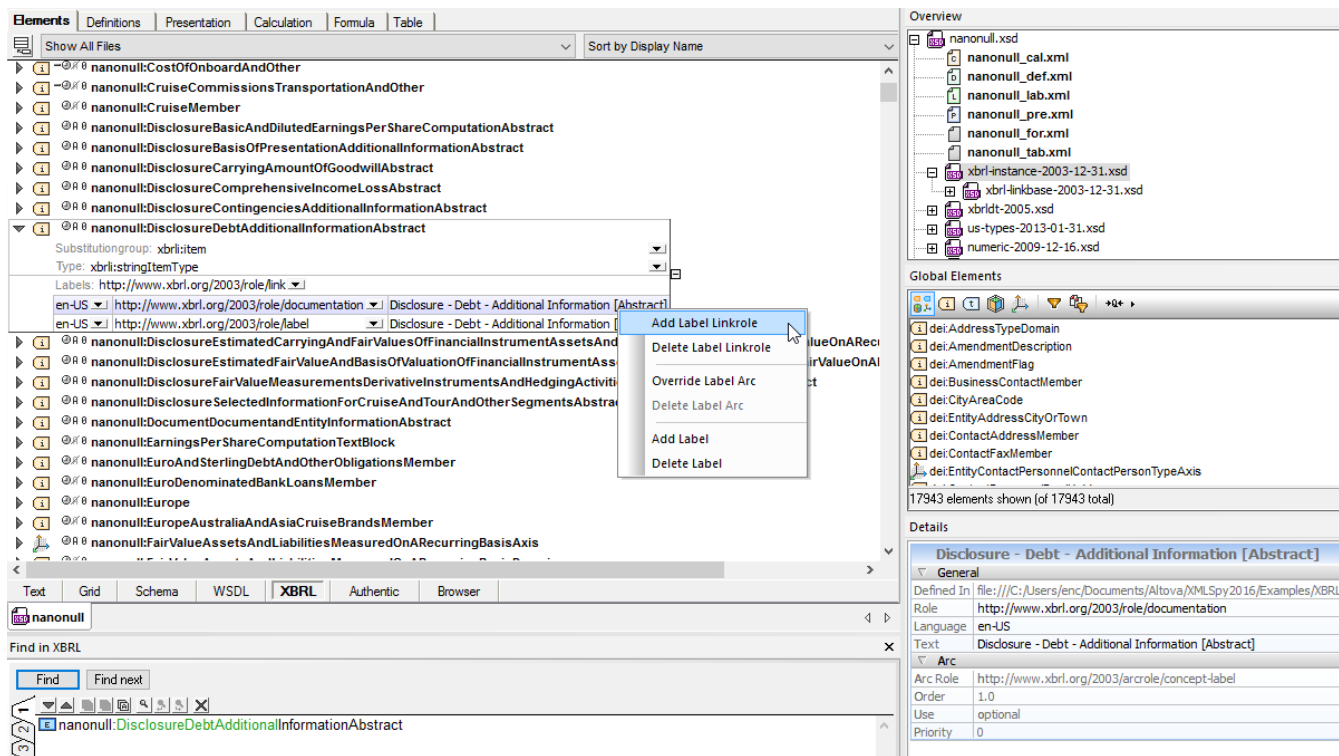


XBRL Certified™ Software

XMLSpy has been tested and awarded the XBRL Certified Software designation by XBRL International for both creating and consuming XBRL.

[LEARN MORE](#)

XBRL Tools



Altova provides comprehensive support for end-to-end XBRL development and report generation, from taxonomy editing in XMLSpy, to high-performance validation on RaptorXML Server, to data mapping and analysis in MapForce, to multi-channel report generation StyleVision.

XBRL Taxonomy Editor

The XMLSpy XBRL taxonomy editor provides a graphical view of XBRL taxonomies and intelligent taxonomy editing features.

By organizing different components on easy-to-filter tabs and providing informative icons, mouseover messages, detail windows, and context-sensitive entry helpers, the XMLSpy XBRL taxonomy editor makes it easy to both view and understand existing taxonomies, and create new ones by way of extending industry-standard taxonomies.

It even includes the handy XBRL Taxonomy Wizard to give you a head start when extending or creating a new XBRL taxonomy.

XBRL editing features include:

- Graphical XBRL taxonomy view
- Support for XBRL 2.1, XBRL Dimensions, and XBRL Formula
- XBRL Table Linkbase editing and execution
- Context-sensitive XBRL tabs and entry helpers
- XBRL Taxonomy Wizard for extending US-GAAP or IFRS
- XBRL taxonomy documentation generation
- XBRL taxonomy and instance validation

XULE Editor and Processor

The [XULE processor and validator](#) in XMLSpy processes XULE expressions against an XBRL instance document, as well as providing validation of XULE documents for correct syntax according to the XULE spec.

Apple Inc.

CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)

(In millions, except number of shares which are reflected in thousands and par value)

	June 29, 2019	September 29, 2018
ASSETS:		
Current assets:		
Cash and cash equivalents	\$ 50,530	\$ 25,913
Marketable securities	44,084	40,388
Accounts receivable, net	14,148	23,186
Inventories	3,355	3,956
Vendor non-trade receivables	12,326	25,809
Other current assets	10,530	12,087
Total current assets	134,973	131,339
Non-current assets:		
Marketable securities	115,996	170,799
Property, plant and equipment, net	37,636	41,304
Other non-current assets	33,634	22,283

Text | **Browser**

a10-qq320196292019.htm

XULE

Run | Update Entry Helpers | Clear | Single Query | Instance Namespace Bindings | Ignore Duplicates | Text

1 @us-gaap:AssetsCurrent

2

Successfully executed XULE on a10-qq320196292019.htm in 6954ms

us-gaap:AssetsCurrent: 131,339,000,000 USD

us-gaap:AssetsCurrent: 134,973,000,000 USD

Messages | XPath/XQuery | XSL Outline | HTTP | **XULE** | Find in Files | Find in Schemas | Find in XBRL | Charts

XMLSpy includes the **industry's first interactive XULE editor**. XULE editing is supported both in Text View and a specialized XULE window, shown above. Both editing views guide users with syntax help, code completion, and other helpful features that make it easy to write and test XULE expressions. As you work, auto completion values are based both on XULE syntax and the structure of the selected XBRL taxonomy, if applicable. Learn more about the powerful [XULE editor](#).



Free XBRL Training for Financial or Technical Stakeholders

[LEARN MORE](#)

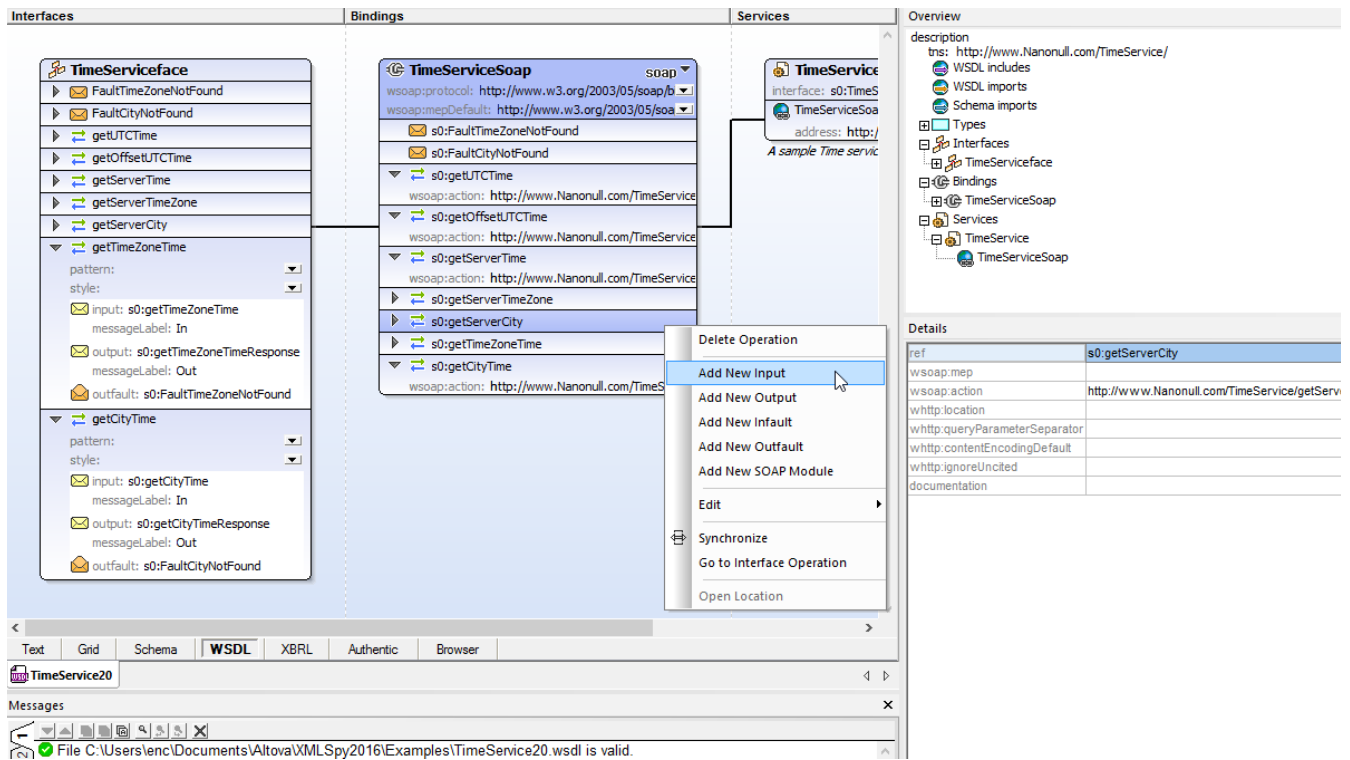
Watch this demo the XBRL Table Linkbase Editor



Watch this demo of the XBRL Formula Editor



WSDL & SOAP Tools

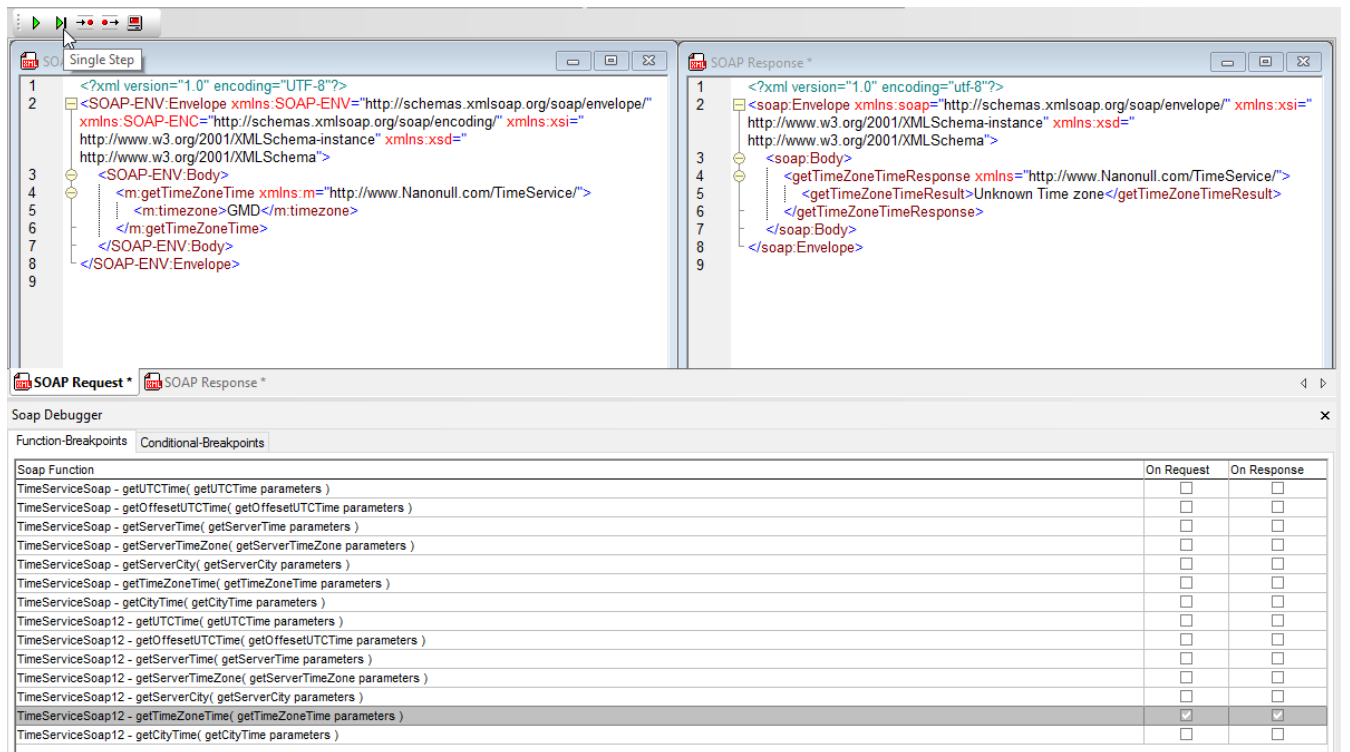


Graphical WSDL Editor

WSDL syntax can be complex, and writing the code by hand in a text-only editor is often difficult and confusing. XMLSpy's unique graphical approach to WSDL design simplifies WSDL development by allowing you to build your WSDL visually, with drag-and-drop functionality and full validation and editing guidance. Complete WSDL code is generated behind the scenes based on your graphical design, and you can view and edit the code in Text View at any time.

Auto-generation of comprehensive WSDL documentation is also supported.

SOAP Client & SOAP Debugger

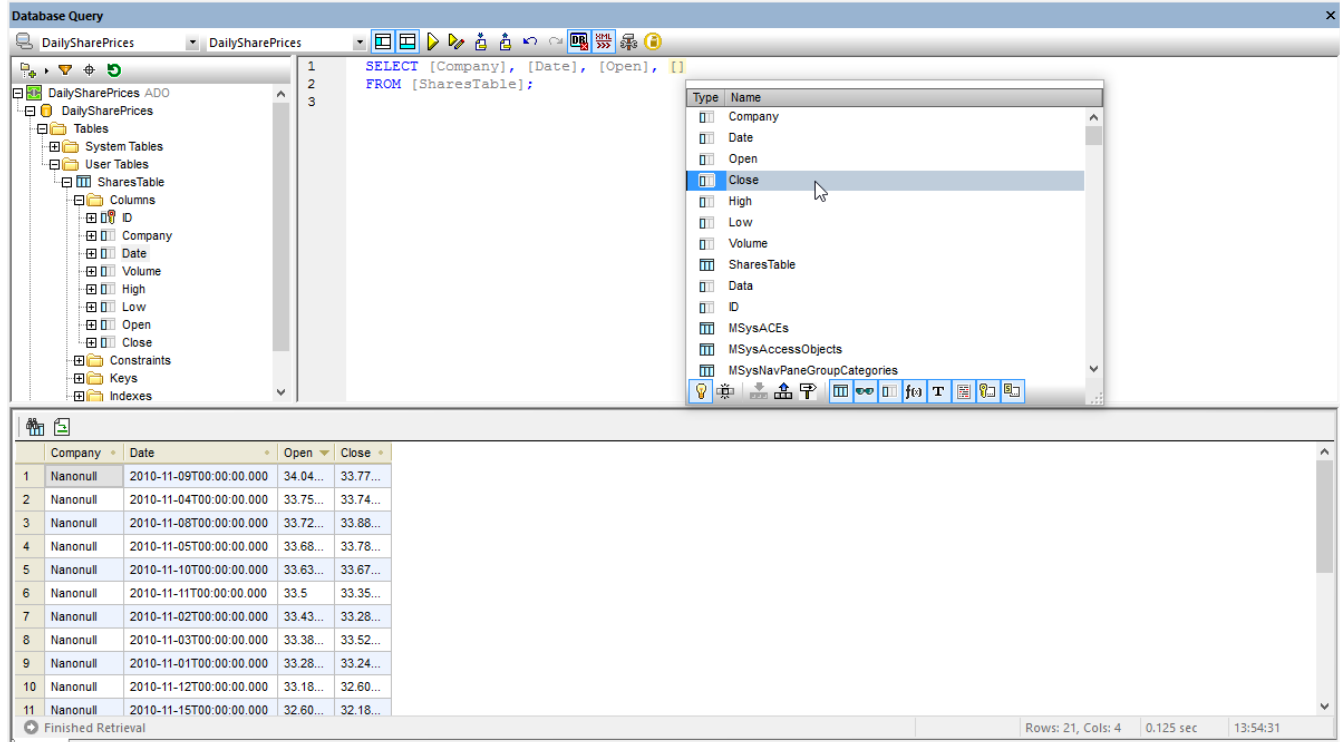


XMLSpy offers full SOAP 1.2 and 1.1 capabilities including a SOAP client for interpreting WSDL documents, creating SOAP requests, submitting them to a Web service, and viewing the SOAP response.

The XMLSpy [SOAP Debugger](#) acts as a proxy between a Web services client and server, allowing you to inspect WSDL 1.1/2.0 files, single-step through Web services transactions sent over HTTP or HTTPS, inspect every request and response XML document, set breakpoints on SOAP functions and even define conditional breakpoints that trigger when a certain request or response contains selected data that is specified by means of an XPath query.

In this way, the SOAP Debugger helps you identify and fix errors quickly and easily.

Database Integration



Powerful relational database integration in XMLSpy helps reduce interoperability challenges by allowing you to easily query SQL databases and convert back and forth between databases and XML files.

XMLSpy interacts with the most popular relational databases in their native interface language, including:

- Firebird 2.5, 3
- IBM DB2 for iSeries® v6.1, 7.1, 7.2, 7.3, 7.4
- IBM DB2® 8, 9.1, 9.5, 9.7, 10.1, 10.5
- Informix® 11.70, 12.10, 14.10
- MariaDB 10, 10.3, 10.4, 10.5
- Microsoft Access™ 2003, 2007, 2010, 2013, 2019
- Microsoft® Azure SQL
- Microsoft® SQL Server® 2005, 2008, 2012, 2014, 2016, 2017, 2019
- MySQL® 5, 5.1, 5.5, 5.6, 5.7, 8
- Oracle® 9i, 10g, 11g, 12c, 18, 19
- PostgreSQL 8, 9.0.10, 9.1.6, 9.2.1, 9.4, 9.6, 10, 11, 12
- Progress OpenEdge 11.6
- SQLite 3.x
- Sybase® ASE 15, 16
- Teradata 16

Database integration functionality includes:

- Database quick-connect wizard
- Database Query window with SQL editor
- Importing SQL database data to XML
- Creating XML Schemas based on SQL database structures
- Exporting XML to SQL databases
- Creating a database schema from an XML Schema
- Support for XML-enabled databases: IBM DB2 pureXML, Oracle XML DB, SQL Server XML databases

Advanced Features

Why is XMLSpy the best JSON and XML IDE available? Unlike other software, XMLSpy includes numerous other advanced features for development, including:

- Royalty-free [code generation](#) in Java, C#, and C++
- Support for [Apache Avro](#)
- Seamless [integration with Visual Studio and Eclipse](#)
- Support for Open XML ([OOXML](#)) data in Microsoft Office docs
- [HTTP Testing Window](#) for HTTP & WADL
- [Chart generation](#) based on XML data
- [SharePoint®](#) Server integration
- Integration with installed RaptorXML Servers for [super-fast processing](#)
- And more

Customers Say

"We have been using Altova XMLSpy for more than four years for our XSLT/XQuery/schema development... As a XSLT developer, I use XMLSpy for my XSLT development and for

ALL the debugging of my code. In a nutshell, XMLSpy is the best."

Manoj Pillai, Sr. Developer, Shared Services Group, Inc.

"Altova's XMLSpy is easily the fastest XML Editor I've ever seen. A free 30-day trial is available on their Web site; the only issue is that when the 30 days are up, you're going to want to buy it."

Edmond Woychowsky, TechRepublic

Download

[Download a fully functional, free 30 day trial of XMLSpy now!](#)

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Buy

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