

XPath Syntax

[< Previous](#)[Next >](#)

XPath uses path expressions to select nodes or node-sets in an XML document. The node is selected by following a path or steps.

The XML Example Document

We will use the following XML document in the examples below.

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



```
<book>
  <title lang="en">Harry Potter</title>
  <price>29.99</price>
</book>

<book>
  <title lang="en">Learning XML</title>
  <price>39.95</price>
</book>

</bookstore>
```

Selecting Nodes

XPath uses path expressions to select nodes in an XML document. The node is selected by following a path or steps. The most useful path expressions are listed below:

Expression	Description
<i>nodename</i>	Selects all nodes with the name " <i>nodename</i> "
/	Selects from the root node
//	Selects nodes in the document from the current node that match the selection no matter where they are
.	Selects the current node



@

Selects attributes

In the table below we have listed some path expressions and the result of the expressions:

Path Expression	Result
bookstore	Selects all nodes with the name "bookstore"
/bookstore	Selects the root element bookstore Note: If the path starts with a slash (/) it always represents an absolute path to an element!
bookstore/book	Selects all book elements that are children of bookstore
//book	Selects all book elements no matter where they are in the document
bookstore//book	Selects all book elements that are descendant of the bookstore element, no matter where they are under the bookstore element
//@lang	Selects all attributes that are named lang

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Predicates

Predicates are used to find a specific node or a node that contains a specific value.

Predicates are always embedded in square brackets.

In the table below we have listed some path expressions with predicates and the result of the expressions:

Path Expression	Result
/bookstore/book[1]	Selects the first book element that is the child of the bookstore element. Note: In IE 5,6,7,8,9 first node is[0], but according to W3C, it is [1]. To solve this problem in IE, set the SelectionLanguage to XPath: <i>In JavaScript:</i> <code>xml.setProperty("SelectionLanguage","XPath");</code>
/bookstore/book[last()]	Selects the last book element that is the child of the b



/bookstore/book[last()-1]	Selects the last but one book element that is the child of the bookstore element
/bookstore/book[position()<3]	Selects the first two book elements that are children of the bookstore element
//title[@lang]	Selects all the title elements that have an attribute named lang
//title[@lang='en']	Selects all the title elements that have a "lang" attribute with a value of "en"
/bookstore/book[price>35.00]	Selects all the book elements of the bookstore element that have a price element with a value greater than 35.00
/bookstore/book[price>35.00]/title	Selects all the title elements of the book elements of the bookstore element that have a price element with a value greater than 35.00

Selecting Unknown Nodes

XPath wildcards can be used to select unknown XML nodes.

Wildcard	Description
*	Matches any element node
@*	Matches any attribute node
node()	Matches any node of any kind

In the table below we have listed some path expressions and the result of the expressions:



<code>/bookstore/*</code>	Selects all the child element nodes of the bookstore element
<code>//*</code>	Selects all elements in the document
<code>//title[@*]</code>	Selects all title elements which have at least one attribute of any kind

Selecting Several Paths

By using the `|` operator in an XPath expression you can select several paths.

In the table below we have listed some path expressions and the result of the expressions:

Path Expression	Result
<code>//book/title //book/price</code>	Selects all the title AND price elements of all book elements
<code>//title //price</code>	Selects all the title AND price elements in the document
<code>/bookstore/book/title //price</code>	Selects all the title elements of the book element of the bookstore element AND all the price elements in the document

[< Previous](#)[Next >](#)