XQuery

By:
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What Is XQuery:

- Language for XML data sources including databases, documents and packaged applications.
- A programming language under development by the W3C that's designed to query collections of XML data.

Basic understanding of Xquery

- HTML / XHTML
- XML / XML Namespaces
- XPath

XQuery Terminology:

- Node:
  - Element, attribute, text, namespace, processing-instruction, comment, and document (root).
  - Example:

    <bookstore> (:document node:)
    <author>J K.Rowling</author> (:element node:)
    lang="en" (:attribute node:)

Terminology:

- Atomic Values:
  - Without children or parent
    - Example:
      - J K. Rowling
      - "en"

Terminology:

- Items = Atomic Values
- Relationship of Nodes:
  - Parent:
    - Each element and attribute has one parent.
    - <book> (:parent:)
    - <title>Harry Potter</title> (:element:)
    - <author>J K. Rowling</author> <year>2005</year>
    - <price>29.99</price>
    - </book>

Terminology:

Children:

- Zero, one, or more
- As example above: title, author, year, and price are children (:SIBLINGS:).

Ancestor:

- A node's parent, parent's parent

```
<bookstore>
        <book>
                <title>Harry Potter</title>
                <author>J K.Rowling</author>
                <year>2005</year>
                <price>29.99</price>
        </book>
</bookstore>
```

XQuery Basic Syntax Rule:

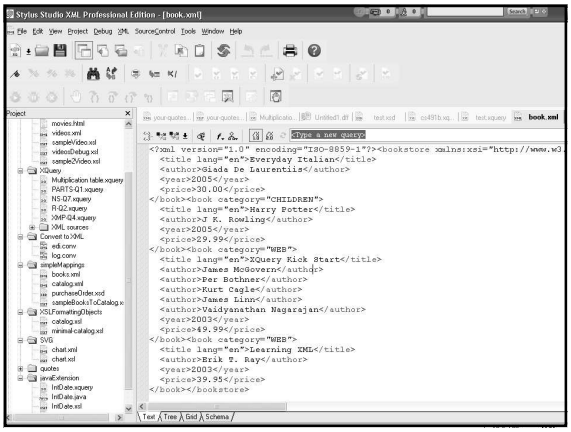
- Case-sensitive
- Elements, attributes, and variables must be valid XML names
- String value can be in single or double quotes
- Variable is defined with a $ followed by a name, e.g. $bookstore
- comments are delimited by (: and :), e.g. (: XQuery Comment :)

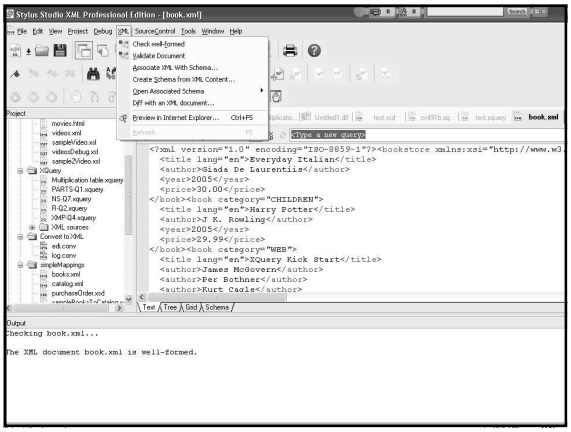
XQuery Comparison

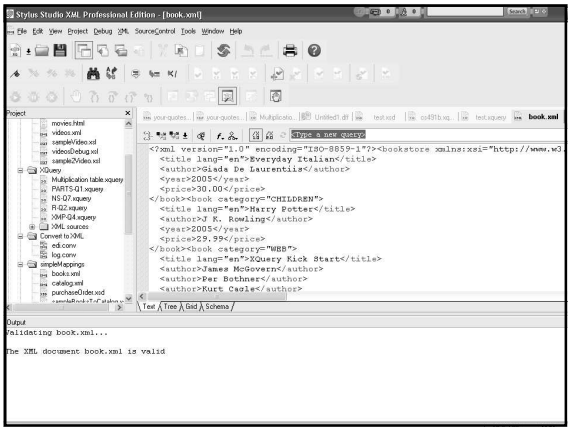
- General comparisons:
  - =, !=, <, <=, >, >=
- Value comparisons:
  - eq, ne, lt, le, gt, ge

DEMONSTRATION

USING
STYLUS STUDIO 6



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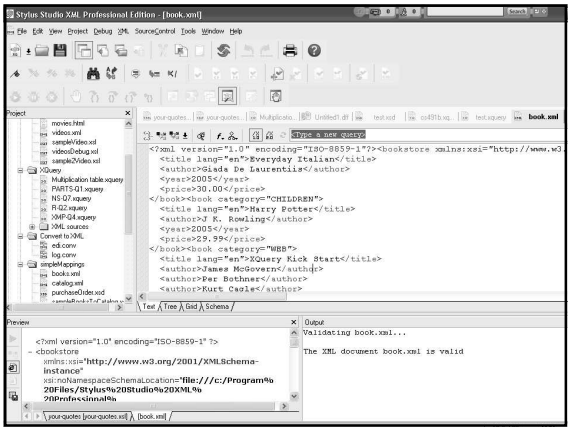
Validating book.xml...
The XML document book.xml is valid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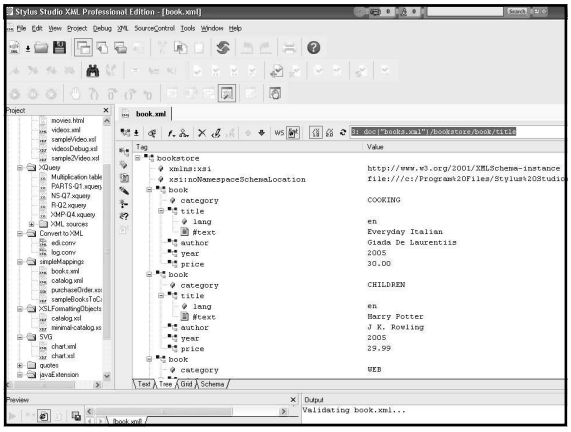
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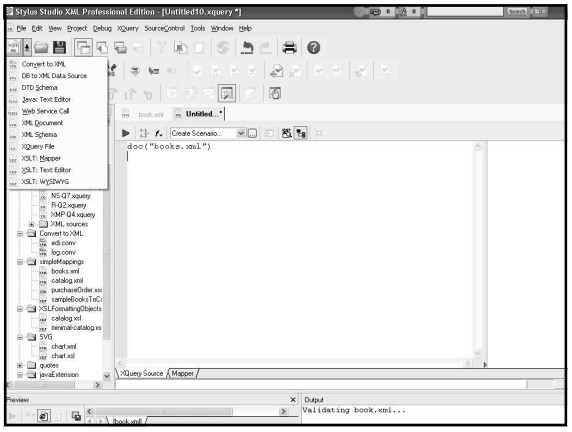
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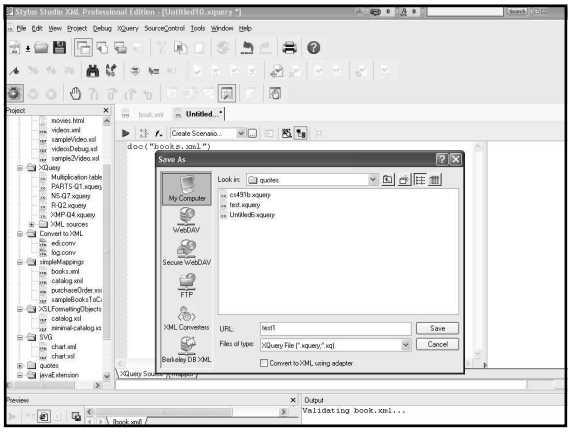
Stylus Studio XML Professional Edition - [Untitled16.xquery *]
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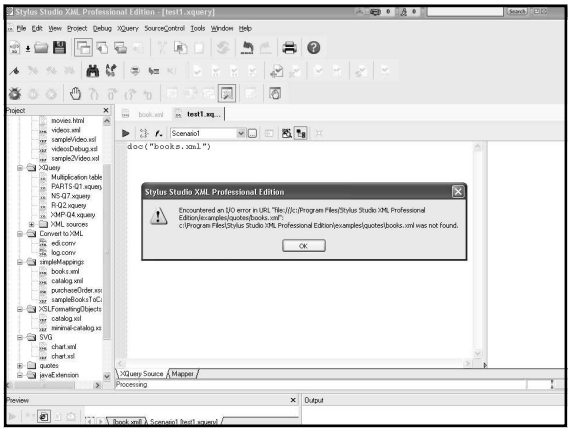
Save As
Validating book.xml...


Stylus Studio XML Professional Edition - [test1.xquery]
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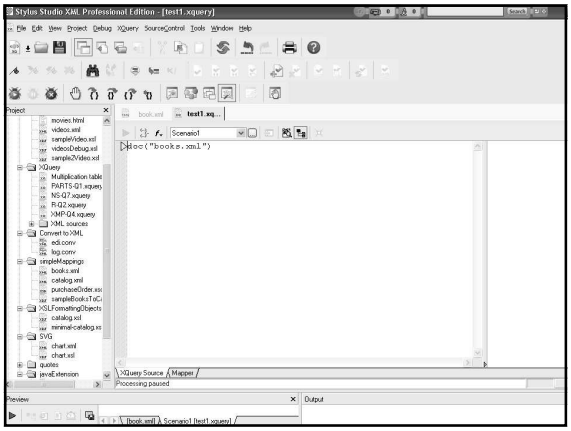
Stylus Studio XML Professional Edition
OK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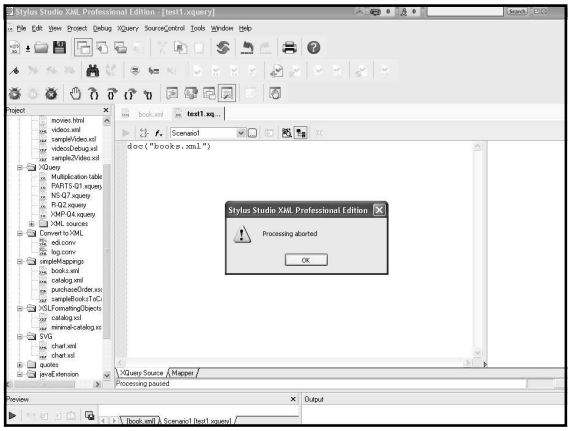
Stylus Studio XML Professional Edition - [test1.xquery]
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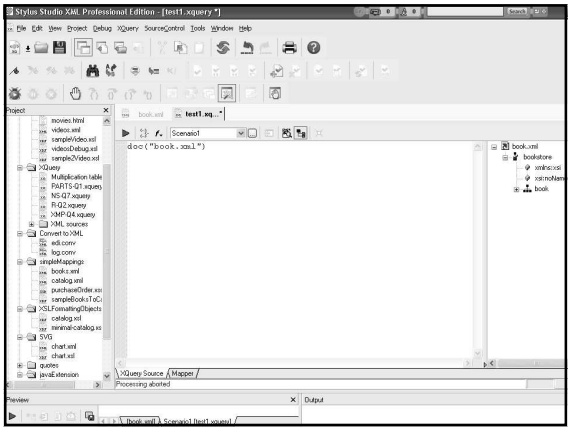
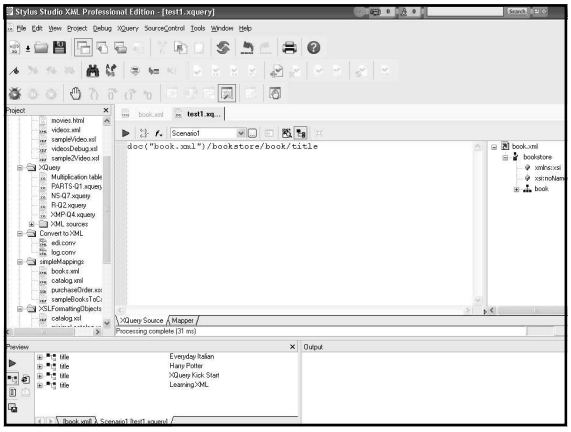
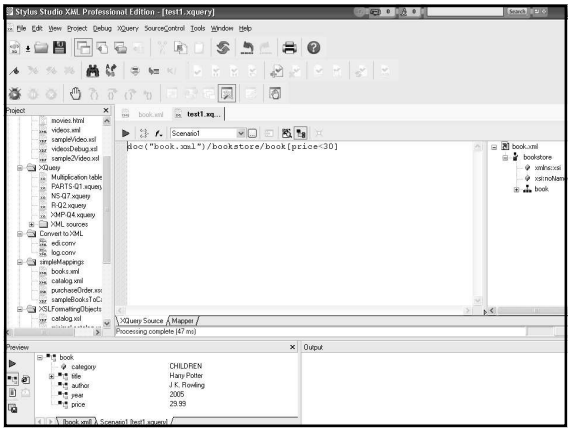
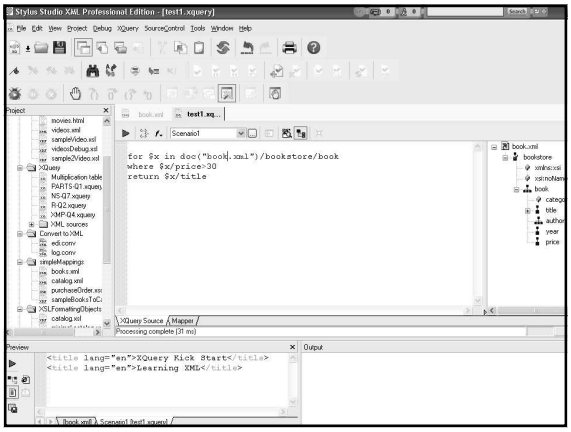
Stylus Studio XML Professional Edition
Processing aborted
OK


Stylus Studio XML Professional Edition - [test1.xquery *]
doc("book.xml")


Stylus Studio XML Professional Edition - [test1.xquery]
doc("book.xml")/bookstore/book/title
Everyday Italian
Harry Potter
XQuery Kick Start
Learning XML


Stylus Studio XML Professional Edition - [test1.xquery]
doc("book.xml")/bookstore/book[price<30]
CHILDREN
Harry Potter
J K. Rowling
2005
29.99


Stylus Studio XML Professional Edition - [test1.xquery]
for $x in doc("book.xml")/bookstore/book
where $x/price<30
return $x/title
<title lang="en">XQuery Kick Start</title>
<title lang="en">Learning XML</title>

Conclusions:

- Xquery is a query proposed by W3C
- The basic form of an Xquery is FLWR expression, which that concept similar to SQL form.
  - F = for SQL = from
  - L = Let SQL = from
  - W = Where SQL = Where
  - R = Return (construct result in the form of an XML document).

Conclusion:

- XML is the form that allows Xquery to transform the expression into SQL.
- Using the Stylus Studio 6 for creating the XML file is much easier to execute, its allows to view many outputs in one screen.

Sources:

- http://www.w3schools.com/XQuery/xquery_flwor.asp
- http://www.w3.org/XML/Query
- http://www.google.com
- http://www.stylusstudio.com
- Web library