XQuery

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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.
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**
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.w3schools.com/XQuery/xquery_flwor.asp)
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