Course: Mastering XSL

Overview
This course covers the complete W3C Specifications of XSL (XSLT and XPath) and exposes the student to the full power of transforming XML documents.

- Understand the architecture and process of XSLT
- Full coverage of XPath (contexts, axes, tests, data types, type casting, functions, all expressions)
- XPath vs/and XQuery
- Comprehend all aspects of templates
- Deal with namespaces
- Adding dynamics using XSLT variables and template parameters
- Produce multiple outputs
- The semantics and syntax of XSLT declarations and instructions
- Use and define XSLT Functions
- How to structure XSL Stylesheet documents (include and import)

Students should be experienced with XML and Software development

Course details

Introduction to XSL
- Introduce the extensible Stylesheet Language
- Introduce the extensible Stylesheet Language Transformations
- Explain the Transformation process
- Discuss when you would need or could use XSL

Introduction to XPath
- Introduce XPath
- Learn the fundamentals of XPath needed for learning XSLT
- List the different types of expressions
- Understand the basics of the path expression syntax
- Understand step expressions
- Address XML attributes using the XPath path expression
- Understand the meaning and the structure of a predicate
- Understand the technique behind the predicate truth value
- Use predicates with logical operators such as and/or
- Peek into the extensive function library of XPath
XSLT Introduction
- Create basic XSLT documents
- Understand the **structure** of an XSLT document
- Explain the syntax of the stylesheet declaration
- Explain template declarations
- Understand the "**default template**"
- Understand the two main methods of using templates
- Use **Output** instructions (value-of)
- Use **Conditional** instructions (if, choose, when, otherwise)
- Use the for-each instruction

Building Stylesheets
- Understand XSLT templates
- Understand template **pattern matching**
- Define multiple templates
- Use the apply-templates and call-template-instruction
- Understand **parameters** and **variables**
- Understand value and parameter values
- Understand **tunneled parameters**
- Understand how to specify the output document or **multiple documents** of a transformation
- Understand how to organise **stylesheets** using include and import
- Understand the concept of stylesheet **precedence**
- Use character mapping
- List XSLT (additional) **functions**

Using XPath
- Understand the full syntax of important **XPath expressions**
- Know the full composition of the **path expression** and its step expressions
- List the **axes** that partition a document from any context without overlap.
- Understand the meaning of axes concepts like **siblings**, **child**, **ancestors** and **descendants**
- Understand the **node test** (name and kind tests)
- List the different kind of **tests** available in XPath
- Appreciate the **abbreviated syntax**
- Understand **data types** in XPath (and list the XPath specific types)
- Understand **type casting** in XPath
- Explain the **Comparison** expressions
- Explain the **for** expression
- Explain **sequence** expressions
- Explain **quantified** expressions

Using XSLT elements
- Understand grouping in XSLT using the for-each-group instruction
- Understand how to add dynamic nodes and attributes to the resulting document
- Understand how to use **attribute value templates**
• **Copy nodes** to the result document
• Understand how to **format numbers**
• Understand how to use **cross-references** in XSLT
• Understand **numbering** and how to control and configure the automatic numbering
• Discuss miscellaneous XSLT instructions