XML DTD VS. XML SCHEMA

For Automation Geeks| By Bharat Kakkar

	DTD	XSD
1	Document Type Definition (DTD) -The XML DTD syntax is one of several XML schema languages. However, many of the schema languages do not fully replace the XML DTD. Note: Most XML schema languages are only replacements for element declarations and attribute list declarations, in such a way that it becomes possible to parse XML documents with non-validating XML parsers	XML Schema Definition (XSD)-published as a W3C recommendation in May 2001 is one of several XML schema languages. It was the first separate schema language for XML to achieve Recommendation status by the W3C.a document written in the XML Schema language, typically containing the "xsd" XML namespace prefix and stored with the ".xsd" filename extension. Note: The word **schema** comes from the Greek word which means shape, or more generally, plan. Technically, a schema is an abstract collection of metadata, consisting of a set of schema component
2	DTD's have their own format; can define substitutions internally within themselves, requiring multiple parses to extract the normalized document. They were also quite limited, allowing course validation, and minimal re-use.	The most obvious features offered in XSD that are not available in XML's native Document Type Definitions (DTDs) are namespace awareness and data types, that is, the ability to define element and attribute content as containing values such as integers and dates rather than arbitrary text.
3	A DTD uses a terse formal syntax that declares precisely * Which elements and references may appear where in the document * What the elements' contents * What the elements' attributes * A DTD can also declare entities which may be used in the instance document.	Like all XML schema languages, XSD can be used to express a set of rules to which an XML document must conform in order to be considered 'valid' according to that schema. However, unlike most other schema languages, XSD was also designed with the intent that determination of a document's validity would produce a collection of information adhering to specific data types. Such a post-validation infoset can be useful in the development of XML document processing software

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4	DTDs make two sorts of declaration: * An optional external subset -The declarations in the external subset are located in a separate text file * An optional internal subset -The declarations in the internal subset form part of the Document Type Declaration in the document itself.	Element/Attribute declarations which define properties of Element/Attribute. These include the Element/Attribute name and target namespace
5	Set of markup declarations that define a document type for an SGML-family markup language Note: Standard Generalized Markup Language (ISO 8879:1986 SGML). HTML, XHTML, and XML are all examples of SGML-based languages	Collection of metadata, consisting of a set of schema components
6	XML uses a subset of SGML DTD, and limited for reuse	The primary reason for defining an XML schema is to formally describe an XML document; however the resulting schema has a number of other uses that go beyond simple validation Note: It allows for complex validation, re-use via inheritance and type creation, is described in terms of XML, so is easy to parse, and has support on most platforms. Almost all major data standards are now described in terms of XSDs.
7	Namespaces Supported (being developed as Part 9 of ISO DSDL - Year 2009) Note: **XML namespaces** are used for providing uniquely named elements and attributes in an XML document	Schema documents are organized by namespace: all the named schema components belong to a target namespace, and the target namespace is a property of the schema document as a whole