**[MS-XMLH]:**

**Internet Explorer XML 1.0 (Fifth Edition) Standards Support Document**

Intellectual Property Rights Notice for Open Specifications Documentation

* **Technical Documentation.** Microsoft publishes Open Specifications documentation (“this documentation”) for protocols, file formats, data portability, computer languages, and standards support. Additionally, overview documents cover inter-protocol relationships and interactions.
* **Copyrights**. This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you can make copies of it in order to develop implementations of the technologies that are described in this documentation and can distribute portions of it in your implementations that use these technologies or in your documentation as necessary to properly document the implementation. You can also distribute in your implementation, with or without modification, any schemas, IDLs, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications documentation.
* **No Trade Secrets**. Microsoft does not claim any trade secret rights in this documentation.
* **Patents**. Microsoft has patents that might cover your implementations of the technologies described in the Open Specifications documentation. Neither this notice nor Microsoft's delivery of this documentation grants any licenses under those patents or any other Microsoft patents. However, a given Open Specifications document might be covered by the Microsoft [Open Specifications Promise](http://go.microsoft.com/fwlink/?LinkId=214445) or the [Microsoft Community Promise](http://go.microsoft.com/fwlink/?LinkId=214448). If you would prefer a written license, or if the technologies described in this documentation are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting [iplg@microsoft.com](mailto:iplg@microsoft.com).
* **License Programs**. To see all of the protocols in scope under a specific license program and the associated patents, visit the [Patent Map](https://msdn.microsoft.com/en-us/openspecifications/dn750984).
* **Trademarks**. The names of companies and products contained in this documentation might be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights. For a list of Microsoft trademarks, visit [www.microsoft.com/trademarks](http://www.microsoft.com/trademarks).
* **Fictitious Names**. The example companies, organizations, products, domain names, email addresses, logos, people, places, and events that are depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

**Reservation of Rights**. All other rights are reserved, and this notice does not grant any rights other than as specifically described above, whether by implication, estoppel, or otherwise.

**Tools**. The Open Specifications documentation does not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments, you are free to take advantage of them. Certain Open Specifications documents are intended for use in conjunction with publicly available standards specifications and network programming art and, as such, assume that the reader either is familiar with the aforementioned material or has immediate access to it.

**Support.** For questions and support, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com).

**Revision Summary**

| Date | Revision History | Revision Class | Comments |
| --- | --- | --- | --- |
| 9/8/2010 | 0.1 | New | Released new document. |
| 10/13/2010 | 0.2 | Minor | Clarified the meaning of the technical content. |
| 2/10/2011 | 1.0 | None | Introduced no new technical or language changes. |
| 2/22/2012 | 2.0 | Major | Significantly changed the technical content. |
| 7/25/2012 | 2.1 | Minor | Clarified the meaning of the technical content. |
| 6/26/2013 | 3.0 | Major | Significantly changed the technical content. |
| 3/31/2014 | 3.0 | None | No changes to the meaning, language, or formatting of the technical content. |
| 1/22/2015 | 4.0 | Major | Updated for new product version. |
| 7/7/2015 | 4.1 | Minor | Clarified the meaning of the technical content. |
| 11/2/2015 | 4.1 | None | No changes to the meaning, language, or formatting of the technical content. |
| 1/20/2016 | 4.2 | Minor | Clarified the meaning of the technical content. |
| 3/22/2016 | 4.2 | None | No changes to the meaning, language, or formatting of the technical content. |
| 11/2/2016 | 4.2 | None | No changes to the meaning, language, or formatting of the technical content. |
| 3/14/2017 | 4.2 | None | No changes to the meaning, language, or formatting of the technical content. |
| 10/3/2017 | 4.2 | None | No changes to the meaning, language, or formatting of the technical content. |
| 2/22/2018 | 4.2 | None | No changes to the meaning, language, or formatting of the technical content. |
| 3/23/2018 | 4.2 | None | No changes to the meaning, language, or formatting of the technical content. |

Table of Contents

[1 Introduction 4](#_Toc509485066)

[1.1 Glossary 4](#_Toc509485067)

[1.2 References 4](#_Toc509485068)

[1.2.1 Normative References 4](#_Toc509485069)

[1.2.2 Informative References 4](#_Toc509485070)

[1.3 Microsoft Implementations 4](#_Toc509485071)

[1.4 Standards Support Requirements 5](#_Toc509485072)

[1.5 Notation 5](#_Toc509485073)

[2 Standards Support Statements 7](#_Toc509485074)

[2.1 Normative Variations 7](#_Toc509485075)

[2.1.1 [XML] Section 2.1, White Space Handling 7](#_Toc509485076)

[2.1.2 [XML] Section 2.3, Common Syntactic Constructs 7](#_Toc509485077)

[2.1.3 [XML] Section 2.8, Prolog and Document Type Declaration 7](#_Toc509485078)

[2.1.4 [XML] Section 2.9, Standalone Document Declaration 8](#_Toc509485079)

[2.1.5 [XML] Section 3, Logical Structures 8](#_Toc509485080)

[2.1.6 [XML] Section 3.1, Start-Tags, End-Tags, and Empty-Element Tags 9](#_Toc509485081)

[2.1.7 [XML] Section 3.2, Element Type Declarations 9](#_Toc509485082)

[2.1.8 [XML] Section 3.2.1, Element Content 9](#_Toc509485083)

[2.1.9 [XML] Section 3.2.2, Mixed Content 9](#_Toc509485084)

[2.1.10 [XML] Section 3.3.1, Attribute Types 10](#_Toc509485085)

[2.1.11 [XML] Section 3.3.2, Attribute Defaults 12](#_Toc509485086)

[2.1.12 [XML] Section 3.4, Conditional Sections 13](#_Toc509485087)

[2.1.13 [XML] Section 4.1, Character and Entity References 14](#_Toc509485088)

[2.1.14 [XML] Section 4.2.2, External Entities 14](#_Toc509485089)

[2.1.15 [XML] Section 4.7, Notation Declarations 14](#_Toc509485090)

[2.2 Clarifications 15](#_Toc509485091)

[2.2.1 [XML] Section 2.1, White Space Handling 15](#_Toc509485092)

[2.2.2 [XML] Section 3.1, Start-Tags, End-Tags, and Empty-Element Tags 15](#_Toc509485093)

[2.2.3 [XML] Section 3.2, Element Type Declarations 16](#_Toc509485094)

[2.2.4 [XML] Section 3.2.2, Mixed Content 16](#_Toc509485095)

[2.2.5 [XML] Section 3.3, Attribute-List Declarations 16](#_Toc509485096)

[2.2.6 [XML] Section 3.3.1, Attribute Types 17](#_Toc509485097)

[2.2.7 [XML] Section 4.2, Entity Declarations 17](#_Toc509485098)

[2.2.8 [XML] Section 4.2.2, External Entities 18](#_Toc509485099)

[2.2.9 [XML] Section 5.1, Validating and Non-Validating Processors 18](#_Toc509485100)

[2.2.10 [XML] Section 5.2, Using XML Processors 19](#_Toc509485101)

[2.3 Error Handling 19](#_Toc509485102)

[2.4 Security 19](#_Toc509485103)

[3 Change Tracking 20](#_Toc509485104)

[4 Index 21](#_Toc509485105)

# Introduction

This document describes the level of support provided by Microsoft web browsers for the *Extensible Markup Language (XML) 1.0 (Fifth Edition)* [[W3C-XMLH]](https://go.microsoft.com/fwlink/p/?LinkId=221669), W3C Recommendation 26 November 2008, edited in place 7 February 2013.

The [W3C-XMLH] specification may contain guidance for authors of webpages and browser users, in addition to user agents (browser applications). Statements found in this document apply only to normative requirements in the specification targeted to user agents, not those targeted to authors.

## Glossary

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as defined in [[RFC2119]](https://go.microsoft.com/fwlink/?LinkId=90317). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](https://go.microsoft.com/fwlink/?linkid=850906).

### Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information.

[NamespacesXML1.1] World Wide Web Consortium, "Namespaces in XML 1.1 (Second Edition)", W3C Recommendation 16 August 2006, [http://www.w3.org/TR/xml-names11/](https://go.microsoft.com/fwlink/?LinkId=182744)

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, [http://www.rfc-editor.org/rfc/rfc2119.txt](https://go.microsoft.com/fwlink/?LinkId=90317)

[W3C-XMLH] World Wide Web Consortium, "Extensible Markup Language (XML) 1.0 (Fifth Edition)", W3C Recommendation 26 November 2008, <https://go.microsoft.com/fwlink/p/?LinkId=221669>

### Informative References

None.

## Microsoft Implementations

The following Microsoft web browser versions implement some portion of the [[W3C-XMLH]](https://go.microsoft.com/fwlink/p/?LinkId=221669) specification:

* Windows Internet Explorer 9
* Windows Internet Explorer 10
* Internet Explorer 11
* Internet Explorer 11 for Windows 10
* Microsoft Edge

Each browser version may implement multiple document rendering modes. The modes vary from one another in support of the standard. The following table lists the document modes in each browser version that support the [W3C-XMLH] specification.

| Browser Version | Documents Modes Supported |
| --- | --- |
| Internet Explorer 9 | IE9 Mode |
| Internet Explorer 10 | IE9 Mode  IE10 Mode |
| Internet Explorer 11 | IE9 Mode  IE10 Mode  IE11 Mode |
| Internet Explorer 11 for Windows 10 | IE9 Mode  IE10 Mode  IE11 Mode |
| Microsoft Edge | EdgeHTML Mode |

For each variation presented in this document there is a list of the document modes and browser versions that exhibit the behavior described by the variation. All combinations of modes and versions that are not listed conform to the specification. For example, the following list for a variation indicates that the variation exists in three document modes in all browser versions that support these modes:

*IE9 Mode, IE10 Mode, and IE11 Mode (All Versions)*

## Standards Support Requirements

To conform to [[W3C-XMLH]](https://go.microsoft.com/fwlink/p/?LinkId=221669), a user agent must implement all required portions of the specification. Any optional portions that have been implemented must also be implemented as described by the specification. Normative language is usually used to define both required and optional portions. (For more information, see [[RFC2119]](https://go.microsoft.com/fwlink/?LinkId=90317).)

The following table lists the sections of [W3C-XMLH] and whether they are considered normative or informative.

| Chapters | Normative/Informative |
| --- | --- |
| 1-2 | Normative |
| Appendices A-E | Informative |

## Notation

The following notations are used in this document to differentiate between notes of clarification, variation from the specification, and extension points.

| Notation | Explanation |
| --- | --- |
| C#### | Identifies a clarification of ambiguity in the target specification. This includes imprecise statements, omitted information, discrepancies, and errata. This does not include data formatting clarifications. |
| V#### | Identifies an intended point of variability in the target specification such as the use of MAY, SHOULD, or RECOMMENDED. (See [[RFC2119]](https://go.microsoft.com/fwlink/?LinkId=90317).) This does not include extensibility points. |
| E#### | Identifies extensibility points (such as optional implementation-specific data) in the target specification, which can impair interoperability. |

For document mode and browser version notation, see section [1.3](#Section_b1e00bad83664d7c8176ac2e163187f5).

# Standards Support Statements

This section contains all variations and clarifications for the Microsoft implementation of [[W3C-XMLH]](https://go.microsoft.com/fwlink/p/?LinkId=221669).

* Section [2.1](#Section_69e10eaee7bc432f8f45fb2dbaf3f2a6) describes normative variations from the MUST requirements of the specification.
* Section [2.2](#Section_cb182a71d50e42eb888271e0b1d24efe) describes clarifications of the MAY and SHOULD requirements.
* Section [2.3](#Section_428c9ecf76f948468a413dbe05594e34) considers error handling aspects of the implementation.
* Section [2.4](#Section_911027d9cd704d559baec59989595018) considers security aspects of the implementation.

## Normative Variations

The following subsections describe normative variations from the MUST requirements of [[W3C-XMLH]](https://go.microsoft.com/fwlink/p/?LinkId=221669).

### [XML] Section 2.1, White Space Handling

V0005:

The specification states:

1. An XML processor MUST always pass all characters in a document that are not
2. markup through to the application. A validating XML processor MUST also inform
3. the application which of these characters constitute white space appearing
4. in element content.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Applications are not informed about which characters constitute white space in element content.

### [XML] Section 2.3, Common Syntactic Constructs

V0002:

The specification states:

1. The Namespaces in XML Recommendation [XML Names] assigns a meaning to names
2. containing colon characters. Therefore, authors should not use the colon in
3. XML names except for namespace purposes, but XML processors must accept the
4. colon as a name character.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Colons are accepted in names only when they are used in accordance with [[NamespacesXML1.1]](https://go.microsoft.com/fwlink/?LinkId=182744).

### [XML] Section 2.8, Prolog and Document Type Declaration

V0003:

The specification states:

1. Validity constraint: Root Element Type
2. The Name in the document type declaration MUST match the element type of
3. the root element.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

The **Name** attribute in the document type declaration can differ from the element type of the root element.

### [XML] Section 2.9, Standalone Document Declaration

V0004:

The specification states:

1. Validity constraint: Standalone Document Declaration
2. The standalone document declaration MUST have the value "no" if any external

markup declarations contain declarations of:

attributes with default values, if elements to which these attributes apply appear in the document without specifications of values for these attributes, or

entities (other than amp, lt, gt, apos, quot), if references to those entities appear in the document, or

attributes with tokenized types, where the attribute appears in the document with a value such that normalization will produce a different value from that which would be produced in the absence of the declaration, or

element types with element content, if white space occurs directly within any instance of those types.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

A standalone document declaration is not required to have a value of no based on the following external markup declarations:

* Attributes with default values, if elements to which these attributes apply appear in the document without specifications of values for these attributes.
* Entities, other than **amp**, **lt**, **gt**, **apos**, and **quot**, if references to those entities appear in the document.
* Attributes with tokenized types, where the attribute appears in the document with a value such that normalization produces a different value from what is produced in the absence of the declaration.
* Element types with element content, if white space occurs directly within any instance of those types.

### [XML] Section 3, Logical Structures

V0006:

The specification states:

1. Validity constraint: Element Valid
2. An element is valid if there is a declaration matching elementdecl where the Name matches the element type, and one of the following holds: . . .

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Elements are not checked for validity.

### [XML] Section 3.1, Start-Tags, End-Tags, and Empty-Element Tags

V0007:

The specification states:

1. Validity constraint: Attribute Value Type
2. The attribute MUST have been declared; the value MUST be of the type declared
3. for it.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Attribute value types are not checked for validity.

### [XML] Section 3.2, Element Type Declarations

V0008:

The specification states:

1. Validity constraint: Unique Element Type Declaration
2. An element type MUST NOT be declared more than once.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Elements can be declared more than once.

### [XML] Section 3.2.1, Element Content

V0009:

The specification states:

1. Validity constraint: Proper Group/PE Nesting
2. Parameter-entity replacement text MUST be properly nested with parenthesized
3. groups. That is to say, if either of the opening or closing parentheses in a
4. choice, seq, or Mixed construct is contained in the replacement text for a
5. parameter entity, both MUST be contained in the same replacement text.
6. For interoperability, if a parameter-entity reference appears in a choice, seq,
7. or Mixed construct, its replacement text SHOULD contain at least one non-blank
8. character, and neither the first nor last non-blank character of the replacement
9. text SHOULD be a connector (| or ,).

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Parameter-entity replacement text does not have to be properly nested in parenthesized groups.

### [XML] Section 3.2.2, Mixed Content

V0010:

The specification states:

1. Validity constraint: No Duplicate Types
2. The same name MUST NOT appear more than once in a single mixed-content declaration.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

More than one instance of an element type may appear in a single mixed-content declaration.

### [XML] Section 3.3.1, Attribute Types

V0011:

The specification states:

1. Validity constraint: ID
2. Values of type ID MUST match the Name production. A name MUST NOT appear more
3. than once in an XML document as a value of this type; i.e., ID values MUST
4. uniquely identify the elements which bear them.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

An **ID** value is not required to uniquely identify the element that is associated with it

V0012:

The specification states:

1. Validity constraint: One ID per Element Type
2. An element type MUST NOT have more than one ID attribute specified.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

An element type may have more than one **ID** attribute specified.

V0013:

The specification states:

1. Validity constraint: ID Attribute Default
2. An ID attribute MUST have a declared default of #IMPLIED or #REQUIRED.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

An **ID** attribute is not required to have a declared default of #IMPLIED or #REQUIRED.

V0014:

The specification states:

1. Validity constraint: IDREF
2. Values of type IDREF MUST match the Name production, and values of type IDREFS
3. MUST match Names; each Name MUST match the value of an ID attribute on some
4. element in the XML document; i.e. IDREF values MUST match the value of some
5. ID attribute.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

An **IDREF** entity attribute is not required to match the value of an **ID** attribute on an element in the XML document.

V0015:

The specification states:

1. Validity constraint: Entity Name
2. Values of type ENTITY MUST match the Name production, values of type ENTITIES
3. MUST match Names; each Name MUST match the name of an unparsed entity declared
4. in the DTD.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Entity attribute types and the **ENTITIES** set of entities are not checked for validity. Entity attribute types are not required to match the name of an unparsed entity that is declared in the DTD.

V0016:

The specification states:

1. Validity constraint: Name Token
2. Values of type NMTOKEN MUST match the Nmtoken production; values of type NMTOKENS
3. MUST match Nmtokens.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Name token attribute types and the **NMTOKENS** set of name tokens are not checked for validity.

V0017:

The specification states:

1. Validity constraint: Notation Attributes
2. Values of this type MUST match one of the notation names included in the
3. declaration; all notation names in the declaration MUST be declared.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

A **notation** attribute is not required to match a notation that is specified in the notation declarations, and all of the notations that are declared in the notation declarations are not required to be declared.

V0018:

The specification states:

1. Validity constraint: No Notation on Empty Element
2. For compatibility, an attribute of type NOTATION MUST NOT be declared on an
3. element declared EMPTY.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

A **NOTATION** attribute may be declared on an element that is declared by using the **EMPTY** keyword.

V0019:

The specification states:

1. Validity constraint: No Duplicate Tokens
2. The notation names in a single NotationType attribute declaration, as well as
3. the NmTokens in a single Enumeration attribute declaration, MUST all be distinct.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Both **NotationalType** attribute types and **Enumeration** attribute types may contain identical elements.

V0020:

The specification states:

1. Validity constraint: Enumeration
2. Values of this type MUST match one of the Nmtoken tokens in the declaration.
3. For interoperability, the same Nmtoken SHOULD NOT occur more than once in the
4. enumerated attribute types of a single element type.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Enumeration values are not required to be declared. The same token may occur more than once in an enumerated attribute type.

### [XML] Section 3.3.2, Attribute Defaults

V0021:

The specification states:

1. In an attribute declaration, #REQUIRED means that the attribute MUST always be
2. provided, #IMPLIED that no default value is provided.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Attributes are not checked to determine if they are required or if they have default values.

V0022:

The specification states:

1. Definition: If the declaration is neither #REQUIRED nor #IMPLIED, then the
2. AttValue value contains the declared default value; the #FIXED keyword states
3. that the attribute MUST always have the default value. When an XML processor
4. encounters an element without a specification for an attribute for which it has
5. read a default value declaration, it MUST report the attribute with the declared
6. default value to the application

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

For an element that is not specified and that includes an attribute that has a declared default value, the attribute is not reported to the application.

V0023:

The specification states:

1. Validity constraint: Required Attribute
2. If the default declaration is the keyword #REQUIRED, then the attribute MUST
3. be specified for all elements of the type in the attribute-list declaration.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

An attribute is not required to be specified for all element types in the attribute-list declaration.

V0024:

The specification states:

1. Validity constraint: Attribute Default Value Syntactically Correct
2. The declared default value MUST meet the syntactic constraints of the declared attribute type. That is, the default value of an attribute: . . .
3. Note that only the syntactic constraints of the type are required here; other constraints (e.g. that the value be the name of a declared unparsed entity, for an attribute of type ENTITY) will be reported by a validating parser only if an element without a specification for this attribute actually occurs.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

The default value for an attribute is not checked against the syntactic constraints of the attribute type.

V0025:

The specification states:

1. Validity constraint: Fixed Attribute Default
2. If an attribute has a default value declared with the #FIXED keyword, instances
3. of that attribute MUST match the default value.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

The value of an attribute is not checked against a fixed default value of the attribute type.

### [XML] Section 3.4, Conditional Sections

V0026:

The specification states:

1. Validity constraint: Proper Conditional Section/PE Nesting
2. If any of the "<![", "[", or "]]>" of a conditional section is contained in the
3. replacement text for a parameter-entity reference, all of them MUST be contained
4. in the same replacement text.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

All the syntactic elements that are referred to in a conditional section (**<![**, **[**, and **]]>**) are not checked to be present in the same replacement text.

### [XML] Section 4.1, Character and Entity References

V0027:

The specification states:

1. Validity constraint: Entity Declared
2. In a document with an external subset or parameter entity references with
3. "standalone='no'", the Name given in the entity reference MUST match that in an
4. entity declaration. For interoperability, valid documents SHOULD declare the
5. entities amp, lt, gt, apos, quot, in the form specified in 4.6 Predefined
6. Entities. The declaration of a parameter entity MUST precede any reference to it.
7. Similarly, the declaration of a general entity MUST precede any attribute-list
8. declaration containing a default value with a direct or indirect reference to
9. that general entity.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

An entity reference is not required to match an entity in the entity declaration.

### [XML] Section 4.2.2, External Entities

V0028:

The specification states:

1. External Entity Declaration
2. [75] ExternalID ::= 'SYSTEM' S SystemLiteral
3. | 'PUBLIC' S PubidLiteral S SystemLiteral
4. [76] NDataDecl ::= S 'NDATA' S Name [VC: Notation Declared]
5. If the NDataDecl is present, this is a general unparsed entity; otherwise it is a parsed entity.
6. Validity constraint: Notation Declared
7. The Name MUST match the declared name of a notation.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

An external entity notation is not required to match a declared notation.

### [XML] Section 4.7, Notation Declarations

V0001:

The specification states:

1. XML processors MUST provide applications with the name and external identifier(s)
2. of any notation declared and referred to in an attribute value, attribute
3. definition, or entity declaration. They MAY additionally resolve the external
4. identifier into the system identifier, file name, or other information needed to
5. allow the application to call a processor for data in the notation described. (It
6. is not an error, however, for XML documents to declare and refer to notations for
7. which notation-specific applications are not available on the system where the
8. XML processor or application is running.)

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Names and external identifiers of declared notations are not provided to applications.

V0029:

The specification states:

1. Validity constraint: Unique Notation Name
2. A given Name MUST NOT be declared in more than one notation declaration.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

A notation is not checked if it is unique.

## Clarifications

The following subsections describe clarifications of the MAY and SHOULD requirements of [[W3C-XMLH]](https://go.microsoft.com/fwlink/p/?LinkId=221669).

### [XML] Section 2.1, White Space Handling

C0005:

The specification states:

1. The value "default" signals that applications' default white-space processing
2. modes are acceptable for this element; the value "preserve" indicates the
3. intent that applications preserve all the white space. This declared intent is
4. considered to apply to all elements within the content of the element where it
5. is specified, unless overridden with another instance of the xml:space attribute.
6. This specification does not give meaning to any value of xml:space other than
7. "default" and "preserve". It is an error for other values to be specified; the
8. XML processor MAY report the error or MAY recover by ignoring the attribute
9. specification or by reporting the (erroneous) value to the application.
10. Applications may ignore or reject erroneous values.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

An error is reported if the **xml:space** attribute is used with a value other than default or preserve.

### [XML] Section 3.1, Start-Tags, End-Tags, and Empty-Element Tags

C0008:

The specification states:

1. [Definition: An empty-element tag takes a special form:]
2. Tags for Empty Elements[44]
3. EmptyElemTag ::= '<' Name (S Attribute)\* S? '/>'[WFC: Unique Att Spec]
4. Empty-element tags may be used for any element which has no content, whether
5. or not it is declared using the keyword EMPTY.
6. For interoperability, the empty-element tag SHOULD be used, and SHOULD only
7. be used, for elements which are declared EMPTY.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

Empty element tags can be used for any element that has no content, including elements that are not declared by using the **EMPTY** keyword.

### [XML] Section 3.2, Element Type Declarations

C0009:

The specification states:

1. The element structure of an XML document may, for validation purposes, be
2. constrained using element type and attribute-list declarations. An element
3. type declaration constrains the element's content.
4. Element type declarations often constrain which element types can appear as
5. children of the element. At user option, an XML processor MAY issue a warning
6. when a declaration mentions an element type for which no declaration is
7. provided, but this is not an error.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

The element structure of an XML document is not constrained for validation purposes.

### [XML] Section 3.2.2, Mixed Content

C0013:

The specification states:

1. Validity constraint: No Duplicate Types
2. The same name MUST NOT appear more than once in a single mixed-content declaration.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

More than one instance of an element type may appear in a single mixed-content declaration.

### [XML] Section 3.3, Attribute-List Declarations

C0014:

The specification states:

1. Definition: Attribute-list declarations specify the name, data type, and default value (if any) of each attribute associated with a given element type:]
2. Attribute-list Declaration
3. [52] AttlistDecl ::= '<!ATTLIST' S Name AttDef\* S? '>'
4. [53] AttDef ::= S Name S AttType S DefaultDecl
5. The Name in the AttlistDecl rule is the type of an element. At user option, an XML processor MAY issue a warning if attributes are declared for an element type not itself declared, but this is not an error. The Name in the AttDef rule is the name of the attribute.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

No warning is issued when an attribute is declared for an element type that has not been declared.

C0015:

The specification states:

1. When more than one AttlistDecl is provided for a given element type, the contents
2. of all those provided are merged. When more than one definition is provided for
3. the same attribute of a given element type, the first declaration is binding and
4. later declarations are ignored. For interoperability, writers of DTDs may choose
5. to provide at most one attribute-list declaration for a given element type, at
6. most one attribute definition for a given attribute name in an attribute-list
7. declaration, and at least one attribute definition in each attribute-list
8. declaration. For interoperability, an XML processor MAY at user option issue a
9. warning when more than one attribute-list declaration is provided for a given
10. element type, or more than one attribute definition is provided for a given
11. attribute, but this is not an error.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

No warning is issued when more than one attribute-list declaration is provided for an element type or more than one attribute definition is provided for a given attribute.

### [XML] Section 3.3.1, Attribute Types

C0023:

The specification states:

1. Validity constraint: One Notation Per Element Type
2. An element type MUST NOT have more than one NOTATION attribute specified.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

An element type may have more than one **NOTATION** attribute.

### [XML] Section 4.2, Entity Declarations

C0034:

The specification states:

1. The Name identifies the entity in an entity reference or, in the case of an
2. unparsed entity, in the value of an ENTITY or ENTITIES attribute. If the same
3. entity is declared more than once, the first declaration encountered is binding;
4. at user option, an XML processor MAY issue a warning if entities are declared
5. multiple times.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

No warning is issued if entities are declared multiple times.

### [XML] Section 4.2.2, External Entities

C0036:

The specification states:

1. An XML processor attempting to retrieve the entity's content may use any
2. combination of the public and system identifiers as well as additional
3. information outside the scope of this specification to try to generate an
4. alternative URI reference. If the processor is unable to do so, it MUST use
5. the URI reference specified in the system literal. Before a match is attempted,
6. all strings of white space in the public identifier MUST be normalized to single
7. space characters (#x20), and leading and trailing white space MUST be removed.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

External entities are not resolved.

If one of the following public identifiers is used, the entities that are defined by XHTML are resolved:

* //W3C//DTD XHTML 1.0 Transitional//EN
* //W3C//DTD XHTML 1.1//EN
* //W3C//DTD XHTML 1.0 Strict//EN
* //W3C//DTD XHTML 1.0 Frameset//EN
* //W3C//DTD XHTML Basic 1.0//EN
* //W3C//DTD XHTML 1.1 plus MathML 2.0//EN
* //W3C//DTD XHTML 1.1 plus MathML 2.0 plus SVG 1.1//EN
* //W3C//DTD MathML 2.0//EN
* //WAPFORUM//DTD XHTML Mobile 1.0//EN

### [XML] Section 5.1, Validating and Non-Validating Processors

C0038:

The specification states:

1. Conforming XML processors fall into two classes: validating and non-validating.
2. Validating and non-validating processors alike MUST report violations of this
3. specification's well-formedness constraints in the content of the document entity
4. and any other parsed entities that they read.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

A non-validating XML parser is used.

C0039:

The specification states:

1. [Definition: Validating processors MUST, at user option, report violations of
2. the constraints expressed by the declarations in the DTD, and failures to fulfill
3. the validity constraints given in this specification.] To accomplish this,
4. validating XML processors MUST read and process the entire DTD and all external
5. parsed entities referenced in the document.

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

A non-validating XML parser is used.

### [XML] Section 5.2, Using XML Processors

C0040:

The specification states:

1. The behavior of a validating XML processor is highly predictable; it must read
2. every piece of a document and report all well-formedness and validity violations.
3. Less is required of a non-validating processor; it need not read any part of the
4. document other than the document entity. ...

*IE9 Mode, IE10 Mode, IE11 Mode, and EdgeHTML Mode (All Versions)*

A non-validating XML parser is used.

## Error Handling

There are no additional error handling considerations.

## Security

There are no additional security considerations.

# Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

# Index

A

[Attribute Defaults](#section_02cd8f339f6b4d5f9eafdcf79d2241e5) 12

Attribute Types ([section 2.1.10](#section_c77325f13a8d44ce884439b1b05bde16) 10, [section 2.2.6](#section_73fc15f7d9e54545b4db96016ee18ab1) 17)

[Attribute-List Declarations](#section_352c51c2f17e427a9c87c1c39f0914ef) 16

C

[Change tracking](#section_69019d7c7e8f4260969be6085d4da280) 20

[Character and Entity References](#section_70973de4356d4b5e93a14138d5bfd17a) 14

[Common Syntactic Constructs](#section_b2f291e537e34e7b91b941f19d605516) 7

[Conditional Sections](#section_8263129c847b47e9bc0646333c9ad1e9) 13

E

[Element Content](#section_4557f886eff94e1eb1bcf89c9cf51b62) 9

Element Type Declarations ([section 2.1.7](#section_70c3581472654812a09ad1b5cc958d5b) 9, [section 2.2.3](#section_7cd2876411a44226ad994ff0fc9893f1) 16)

[Entity Declarations](#section_f90a5dc8a99a4b32abea273cecb3eb07) 17

External Entities ([section 2.1.14](#section_51ac55a5bb5f435ca42ecea1e7c11ec1) 14, [section 2.2.8](#section_31e46b02573a4d7dad6889291633318b) 18)

G

[Glossary](#section_e84d9451b8d54c67aee3cbf0e4f9a873) 4

I

[Informative references](#section_780894eab6514166a3a16e2e56f2d9f6) 4

[Introduction](#section_1aa30e62da974dcea366c4778498daf0) 4

L

[Logical Structures](#section_1a4ce2de02514f6ab2ba71b74c989adb) 8

M

Mixed Content ([section 2.1.9](#section_3517955be1054b0fac2755690e80ba08) 9, [section 2.2.4](#section_cd0a05787e954a11aa768dd689dc6a0e) 16)

N

[Normative references](#section_6f8e002d27ac483b87b0a9f9a967dd67) 4

[Notation Declarations](#section_b05f2698bd894c0da396394528330e73) 14

P

[Prolog and Document Type Declaration](#section_96ea8235543b46f491eeac3878afeb7b) 7

R

References

[informative](#section_780894eab6514166a3a16e2e56f2d9f6) 4

[normative](#section_6f8e002d27ac483b87b0a9f9a967dd67) 4

S

[Standalone Document Declaration](#section_8674069fc36b460b8dae6bac3e932fc5) 8

Start-Tags - End-Tags - and Empty-Element Tags ([section 2.1.6](#section_4f63ee6b643c4a5ab5697dc538c46f54) 9, [section 2.2.2](#section_ad0295b4a30e4d6b9c2b8dd16510eb9b) 15)

T

[Tracking changes](#section_69019d7c7e8f4260969be6085d4da280) 20

U

[Using XML Processors](#section_d755842f43754c69875aef0f145b3db5) 19

V

[Validating and Non-Validating Processors](#section_ea9c0e34085f4a15afffe4b99e64b718) 18

W

White Space Handling ([section 2.1.1](#section_b4708d417b2f4f4c95e2650467b248b1) 7, [section 2.2.1](#section_c00186f86bcf4d49adec544479c3465a) 15)