

XML Namespaces

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XML Namespaces provide a method to avoid element name conflicts.

Name Conflicts

In XML, element names are defined by the developer. This often results in a conflict when trying to mix XML documents from different XML applications.

This XML carries HTML table information:

```
    Apples
```

This XML carries information about a table (a piece of furniture):

```
<name>African Coffee Table</name>
<width>80</width>
```



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If these XML fragments were added together, there would be a name conflict. Both contain a element, but the elements have different content and meaning.

A user or an XML application will not know how to handle these differences.

Solving the Name Conflict Using a Prefix

Name conflicts in XML can easily be avoided using a name prefix.

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This XML carries information about an HTML table, and a piece of furniture:

```
<h:table>
  <h:tr>
    <h:td>Apples</h:td>
    <h:td>Bananas</h:td>
    </h:tr>
  </h:tr>
  </h:table>

<f:table>
  <f:name>African Coffee Table</f:name>
  <f:width>80</f:width>
    <f:length>120</f:length>
  </f:table>
```

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In the example above, there will be no conflict because the two elements have different names.

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XML Namespaces - The xmlns Attribute

When using prefixes in XML, a **namespace** for the prefix must be defined.

The namespace can be defined by an **xmlns** attribute in the start tag of an element.

The namespace declaration has the following syntax. xmlns:prefix="URI".

```
<root>
<h:table xmlns:h="http://www.w3.org/TR/html4/">
  <h:tr>
    <h:td>Apples</h:td>
    <h:td>Bananas</h:td>
  </h:tr>
</h:table>
<f:table xmlns:f="https://www.w3schools.com/furniture">
  <f:name>African Coffee Table</f:name>
  <f:width>80</f:width>
  <f:length>120</f:length>
</f:table>
</root>
```

In the example above:

The xmlns attribute in the first element gives the h: prefix a qualified namespace.

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are associated with the same namespace.

Namespaces can also be declared in the XML root element:

```
<root xmlns:h="http://www.w3.org/TR/html4/"</pre>
xmlns:f="https://www.w3schools.com/furniture">
<h:table>
  <h:tr>
    <h:td>Apples</h:td>
    <h:td>Bananas</h:td>
  </h:tr>
</h:table>
<f:table>
  <f:name>African Coffee Table</f:name>
  <f:width>80</f:width>
  <f:length>120</f:length>
</f:table>
</root>
```

Note: The namespace URI is not used by the parser to look up information.

The purpose of using an URI is to give the namespace a unique name.

However, companies often use the namespace as a pointer to a web page containing namespace information.

Uniform Resource Identifier (URI)

A Uniform Resource Identifier (URI) is a string of characters which identifies an Internet Resource.

The most common URI is the **Uniform Resource Locator** (URL) which identifies an Internet domain address. Another, not so common type of URI is the **Uniform** Resource Name (URN).

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child elements. It has the following syntax:

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```
xmlns="namespaceURI"
```

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This XML carries HTML table information:

This XML carries information about a piece of furniture:

```
    <name>African Coffee Table</name>
    <width>80</width>
    <length>120</length>
```

Namespaces in Real Use

XSLT is a language that can be used to transform XML documents into other formats.

The XML document below, is a document used to transform XML into HTML.

The namespace "http://www.w3.org/1999/XSL/Transform" identifies XSLT elements inside an HTML document:





```
VV2T.2CATESHEEF AEL 2TOH- T.A
xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
<xsl:template match="/">
<html>
<body>
 <h2>My CD Collection</h2>
 Title
    Artist
  <xsl:for-each select="catalog/cd">
  <xsl:value-of select="title"/>
    <xsl:value-of select="artist"/>
  </xsl:for-each>
 </body>
</html>
</xsl:template>
</xsl:stylesheet>
```

If you want to learn more about XSLT, please read our XSLT Tutorial.

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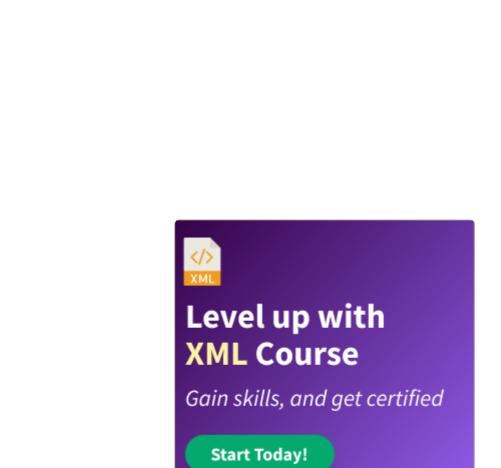
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