

DTD & Attributes

Definition of an attribute in DTD

```
<!ATTLIST      element_name
```

```
    attribute_name           TYPE           DEFAULT_VALUE
```

```
    attribute_name           TYPE           DEFAULT_VALUE
```

```
    attribute_name           TYPE           DEFAULT_VALUE
```

```
    <!-- more attributes -->
```

```
>
```

Definition of an attribute in DTD

<!ATTLIST

element_name



A previous element already defined in a <!ELEMENT> statement.

attribute_name

TYPE

DEFAULT_VALUE

<!-- more attributes -->

Definition of an attribute in DTD

`<!ATTLIST` *element_name* *attribute_name* *TYPE* *DEFAULT_VALUE*

A previous element already defined in a `<!ELEMENT>` statement.

The name of the attribute we are creating

`<!-- more attributes -->`

Definition of an attribute in DTD

<!ATTLIST

element_name

A previous element already defined in a <!ELEMENT> statement.

attribute_name

TYPE

DEFAULT_VALUE

The name of the attribute we are creating

Type of the attribute*
(We'll see it later)

CDATA => Plain text

<!-- more attributes -->

Definition of an attribute in DTD

<!ATTLIST

element_name

A previous element already defined in a <!ELEMENT> statement.

attribute_name

TYPE

DEFAULT_VALUE

The name of the attribute we are creating

Type of the attribute*
(We'll see it later)

CDATA => Plain text

The default value of the attribute

<!-- more attributes -->

Example

DTD:

```
<!ATTLIST element_name  
    attribute_name    TYPE    DEFAULT_VALUE >
```

Example:

```
<!ATTLIST tutorial  
    published CDATA "No">
```

XML, with no attributes:

```
<tutorial/>
```

then *published* is "No".

XML, with attributes:

```
<tutorial published = "Yes"/>
```

Default value

Value	Description
<i>value</i>	A simple text value, enclosed in quotes .
#IMPLIED	Specifies that there is no default value for this attribute, and that the attribute is optional.
#REQUIRED	There is no default value for this attribute, but a a value must be assigned.
#FIXED <i>value</i>	The <i>#FIXED</i> part specifies that the value must be the value provided. The <i>value</i> part represents the actual value.

Default value

Value	Description
<i>value</i>	A simple text value, enclosed in quotes .
#IMPLIED	Specifies that there is no default value for this attribute, and that the attribute is optional.
#REQUIRED	There is no default value for this attribute, but a a value must be assigned.
#FIXED <i>value</i>	The <i>#FIXED</i> part specifies that the value must be the value provided. The <i>value</i> part represents the actual value.

Syntax:

```
<!ATTLIST element_name attribute_name CDATA "default_value">
```

Example:

```
<!ATTLIST tutorial published CDATA "No">
```

Default value

Value	Description
<i>value</i>	A simple text value, enclosed in quotes .
#IMPLIED	Specifies that there is no default value for this attribute, and that the attribute is optional.
#REQUIRED	There is no default value for this attribute, but a a value must be assigned.
#FIXED <i>value</i>	The #FIXED part specifies that the value must be the value provided. The <i>value</i> part represents the actual value.

Syntax:

```
<!ATTLIST element_name attribute_name CDATA #IMPLIED>
```

Example:

```
<!ATTLIST tutorial rating CDATA #IMPLIED>
```

Default value

Value	Description
<i>value</i>	A simple text value, enclosed in quotes .
#IMPLIED	Specifies that there is no default value for this attribute, and that the attribute is optional.
#REQUIRED	There is no default value for this attribute, but a a value must be assigned.
#FIXED <i>value</i>	The <i>#FIXED</i> part specifies that the value must be the value provided. The <i>value</i> part represents the actual value.

Syntax:

```
<!ATTLIST element_name attribute_name CDATA #REQUIRED>
```

Example:

```
<!ATTLIST tutorial published CDATA #REQUIRED>
```

Default value

Value	Description
<i>value</i>	A simple text value, enclosed in quotes .
#IMPLIED	Specifies that there is no default value for this attribute, and that the attribute is optional.
#REQUIRED	There is no default value for this attribute, but a a value must be assigned.
<i>#FIXED value</i>	The <i>#FIXED</i> part specifies that the value must be the value provided. The <i>value</i> part represents the actual value.

Syntax:

```
<!ATTLIST element_name attribute_name CDATA #FIXED "value">
```

Example:

```
<!ATTLIST tutorial language CDATA #FIXED "EN">
```

Type

Type	Description
<u>CDATA</u>	Character Data (text that doesn't contain markup)
<u>ENTITY</u>	The name of an entity (which must be declared in the DTD)
<u>ENTITIES</u>	A list of entity names, separated by whitespaces. (All entities must be declared in the DTD)
<u>Enumerated</u>	A list of values. The value of the attribute must be one from this list.
<u>ID</u>	A unique ID or name. Must be a valid XML name.
<u>IDREF</u>	Represents the value of an ID attribute of another element.
<u>IDREFS</u>	Represents multiple IDs of elements, separated by whitespace.
<u>NMTOKEN</u>	A valid XML name.
<u>NMTOKENS</u>	A list of valid XML names, separated by whitespace.
<u>NOTATION</u>	A notation name (which must be declared in the DTD).

Type

Type	Description
<u>CDATA</u>	Character Data (text that doesn't contain markup)
<u>ENTITY</u>	The name of an entity (which must be declared in the DTD)
<u>ENTITIES</u>	A list of entity names, separated by whitespaces. (All entities must be declared in the DTD)
<u>Enumerated</u>	A list of values. The value of the attribute must be one from this list.
<u>ID</u>	A unique ID or name. Must be a valid XML name.
<u>IDREF</u>	Represents the value of an ID attribute of another element.
<u>IDREFS</u>	Represents multiple IDs of elements, separated by whitespace.
<u>NMTOKEN</u>	A valid XML name.
<u>NMTOKENS</u>	A list of valid XML names, separated by whitespace.
<u>NOTATION</u>	A notation name (which must be declared in the DTD).

CDATA type

Syntax:

```
<!ATTLIST element_name  
attribute_name CDATA  
default_value>
```

Example:

```
<!ATTLIST mountain  
country CDATA "New Zealand">
```

```
<mountains>  
  <mountain country="New Zealand">  
    <name>Mount Cook</name>  
  </mountain>  
  <mountain country="Australia">  
    <name>Cradle Mountain</name>  
  </mountain>  
</mountains>
```

Enumerated type

Syntax:

```
<!ATTLIST element_name  
attribute_name (value1 |  
value2 | value3)  
default_value>
```

Example:

```
<!ATTLIST tutorial  
published (yes | no) "no">
```

```
<tutorials>  
  <tutorial published="yes">  
    <name>XML Tutorial</name>  
  </tutorial>  
  <tutorial published="no">  
    <name>HTML Tutorial</name>  
  </tutorial>  
  <tutorial>  
    <name>CSS Tutorial</name>  
  </tutorial>  
</tutorials>
```


DTD entities and references

XML entity references		
Character	Entity	Entity reference
< (less than)	lt	<
> (greater than)	gt	>
" (quotation mark)	quot	"
' (apostrophe)	apos	'
& (ampersand)	amp	&

DTD entities and references

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<entities>
```

```
  <less_than>&lt;.</less_than>
```

```
  <greater_than>&gt;.</greater_than>
```

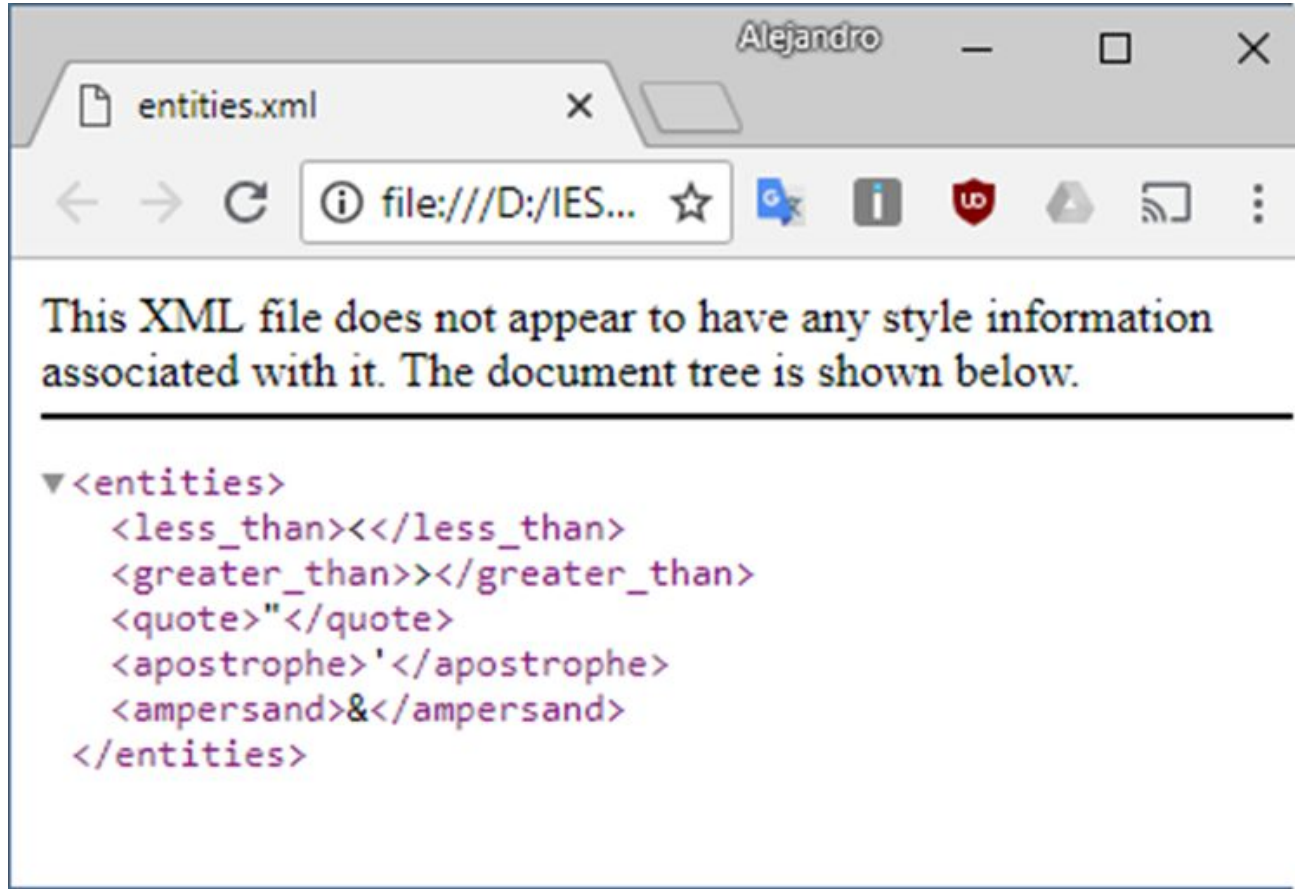
```
  <quote>&quot;.</quote>
```

```
  <apostrophe>&apos;.</apostrophe>
```

```
  <ampersand>&amp;.</ampersand>
```

```
</entities>
```

DTD entities and references



Creating DTD entities

Syntax:

```
<!ENTITY name definition>
```

Example

```
<!ENTITY author "Homer  
Flinstone">
```

```
<books>  
  <book>  
    <name>Life as a cartoon  
character</name>  
    <author>&author;</author>  
  </book>  
</book>
```