Cheatography

DTDs for XML Cheat Sheet

by Gruenauge via cheatography.com/207914/cs/44447/

What is XML?

XML (eXtensible Markup Language)	A flexible text format used to store and transport data, designed to be both human-readable and machine-readable
Key features	Platform-independent
	Designed for information exchange
	Hierarchical structure with custom tags

What is a DTD?

DTD (Document Type Definition)	Defines the structure and rules for an XML document. It ensures that the XML follows a specific schema.
Key features	Elements
	Attributes
	Entities

1. DTD Declaration

External DTD file:

```
<!D OCTYPE root_e lement SYSTEM " fil e.d td">
```

Internal DTD file:

```
<!D OCTYPE root_e lement [
    <!-- DTD declar ations go here -->
]>
```

SYSTEM: Points to an external DTD file.

Root Element & Hierarchy

Every XML document has one root element that holds the entire structure.

```
<!E LEMENT candy_ store (categ ory _ch oco late, ca
tego ry_ gum my? )>
```

Entities

&	&
<	<
>	>
'	'
"	"

```
<!E NTITY copy " Cop yright SweetWorld 2023">
```

Called in the XML document with `©`.

Parameter Entities

Reusable definitions within a DTD.

Allows complex content to be reused in multiple elements.

```
<!E NTITY % product " (price, manufa ctu rer?, imag
es?,
 descri ption?, nutrit ion al_ inf o?) ">
```

```
<!E LEMENT chocol ate_bar %produ ct;>
```

Element Occurrence

2. Element Declarations

```
<!ELEMENT element_name (content)>
<!E LEMENT elemen t_name EMPTY>
Example with sub-el ements:
<!E LEMENT candy_ types (choco late, gummy,
hard_c and y)>
Example with text content:
<!E LEMENT descri ption (#PCDA TA)>
```

EMPTY: If the element has no content

PCDATA: Parsed Character Data is text that will be parsed by the XML parser. Tags inside are treated as markup and entities will be expanded.

CDATA: (Unparsed) Character data is text which is not parsed further in an XML document.
Tags inside are not treated as markup and entities will not be expanded.

Attributes

```
<!A TTLIST elemen t_name attrib ute _name type sta
tus>
```

Status:

#REQUIRED	must be present
#IMPLIED	optional
#FIXED	fixed value
Types:	CDATA (any character string)
	Enumerations (predefined values)

Example:

```
<!A TTLIST candy chocol ate _flavor CDATA #REQUIRE
D sugar_content
 CDATA #REQUI RED>
```

Attributes: chocolate_flavor, sugar_content
Element: candy

?	Optional, zero or one occurrence
*	Optional, zero, one, or more occurrences
+	At least one occurrence
,	Elements must appear in the given order
|	Either one element or the other

```
<!E LEMENT nutrit ion al_info (calor ies?, fat_cont
ent?,
 sugar_ con ten t?)>
```

Calories, fat_content, and sugar_content are optional.

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