



Lunch n Learn Understanding DTDs

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This presentation you will learn the DTD structure and how to use the HTML LIVE DTD tagging diagram TOOL.



Agenda

- ◆ DTD structure
- ◆ Using Tagging Diagrams

(We will use 40051 as our examples, but 38784 and 63029 DTDs generally work the same way)

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DTD Purpose

DTD provides a tree-like structure for your documents.

The DTD enforces the tagging in accordance with standard and the appropriate matrix.

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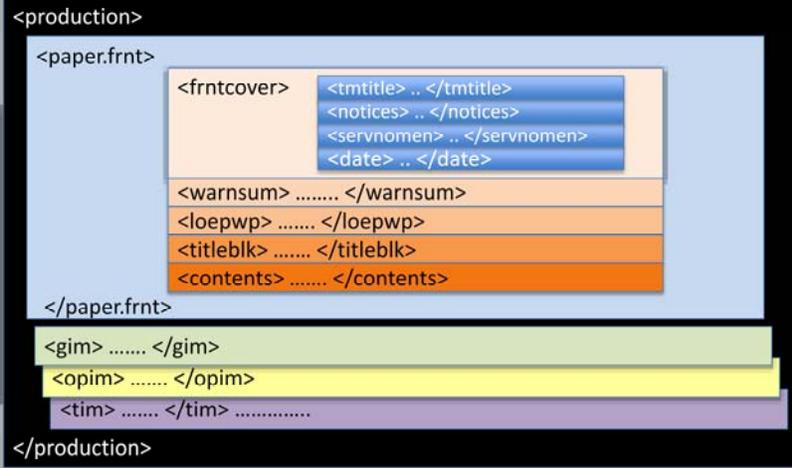
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The DTD is the Document Type Definition.

The Matrix refers to the standards for instance, 40051, the list of applicable elements (tags) required to publish a Technical Manual.



General 40051 DTD Concept



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In 40051, this is a basic XML file that illustrates the structure of the document.



DTD Syntax (Symbols)

(Group Open
, (comma)	Sequence connector, must appear in that order
&	'AND' connector, either can appear in any order
	'OR' connector, either can appear but not both
*	0 or more (optional and repeatable)
?	0 or 1 (optional)
+ (to the right)	1 or more (required and repeatable)
)	Group Close

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To understand the DTD we need to understand the syntax used in a DTD. These symbols and their meaning will be further explained in the following slides.



Understanding DTD Syntax

```
<!ELEMENT frntcover (tmtitle, graphic?, reporting?, notices*, servnomen, date)>
```

? <graphic> and <reporting> are both OPTIONAL (0 or 1 time)

* <notices> is OPTIONAL and can be used multiple times (0 or more times)

ALL items must be tagged (if tagged) in the order they are listed because of the commas.

NOTE

<notices> was made with a * for discussion purposes, the actual DTD does NOT allow multiple <notices> tags.

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This is just an illustration and does not reflect the elements in any DTD.



Understanding Entities

```
<!ELEMENT faultproc (title, %alert;, para+)>
```

1. <title> is required
2. %alert is a grouping of tags identified through an ENTITY declaration in the DTD and pulled in using the % in front of the name.
3. <para> is required with the + allowing multiple usage.

The %alert is pulled into the faultproc structure with the following 0 or more tags:

```
<!ENTITY % alert "(warning\*, csi.alert\*, caution\*, note\*)">
```

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Understanding Grouping

```
<!ELEMENT faultproc (title, %alert;, (symptom, (malfunc,  
    (action | %localref;)+)+)+)>
```

```
<!ENTITY % localref "xref | link">
```

- ❖ Elements are grouped using parentheses.
- ❖ The third part is a group identified with the green parentheses and may be tagged one or more times (green +). The group has a nested group within it (blue + with a nested pink group).
- ❖ The pink group is as 'OR'ed group, | meaning you may tag <action> OR the ENTITY %localref, which includes choosing <xref> OR <link> only once.

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Empty and PCDATA Elements

<!ELEMENT xref EMPTY>

- ❖ An empty element will appear by itself and is closed within the open tag. (i.e. <xref/>)
- ❖ All other elements will have an open and close tag (i.e. <production>...</production>)

<!ELEMENT chgvol (#PCDATA)>

- ❖ An open tag and a close tag with valid XML characters (parseable: no <, &, or reserved XML characters).

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Attributes

<!ATTLIST xref

itemno CDATA #IMPLIED	(CDATA is character data)
wpno ID #REQUIRED	(ID is a declared ID for that element)
itemid IDREF #IMPLIED	(IDREF is the value of a declared ID)
assocfig IDREFS #IMPLIED	(IDREFS is the value of multiple declared IDs separated by a space)
boardno ENTITY #REQUIRED	(uses appropriate entity declaration)
qa (yes no) 'no'	(choice attribute defaulting to 'no')
tocentry (0 1 2 3 4 5) '1'	(choice attribute defaulting to '1')
%secur; >	(attribute entity pulling in a listing identified elsewhere in the DTD)

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Attributes (Cont) IMPLIED, REQUIRED, & Others

<!ATTLIST xref
itemno CDATA **#IMPLIED** (attribute is not required)
wpno ID **#REQUIRED** (required attribute)
qa (yes | no) **'no'** (both selectable, defaults to what
tocentry (0 | 1 | 2 | 3 | 4 | 5) **'1'** is in quotes if nothing is selected)
>

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Check it Out

```
<!ELEMENT paper.manual (paper.front, ((gim, %volumegroup;), (opim, %volumegroup;)*)  
((tim, %volumegroup;)?, (mim, %volumegroup;)?)+, (pim, %volumegroup;)?)  
(dim, %volumegroup;)?, sim) | pim), rear)>  
  
<!ATTLIST paper.manual pubno CDATA #IMPLIED  
maintitl CDATA #REQUIRED  
maintlvs (10 | 13 | 14 | 23 | 24 | 40 | dmwr | dmwr-nmwr | nmwr | NA) #REQUIRED  
rpstl (yes | no | only) "no"  
dmwr-inclus (parts | parts-tools) #IMPLIED  
revno CDATA #REQUIRED  
multivolume  
%no\_att;  
%paper.size;  
%secur; >
```

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Lesson Learned: Understanding DTD structure and the syntax

HTML LIVE DTD TOOL OVERVIEW

DTM Filename: 40001D_4_12.dtd
 Element (tag) names are in RED
 Sub-elements (tags) are hot links

Index of names to display
 Index of tags declared in the DTD
 Click on the "+" to see where each name is used

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DTD Filename: name of the DTD illustrated in the tool

Element Names are in RED.

References are hot links; each element hotlink when clicked will scroll to the element you click in the DTD. Only the right half of the window changes.

Index of names to display: Each is similar to a category. These will be illustrated in another slide.

Index of names declared in the DTD: When you click the category this list changes for each Index name type.

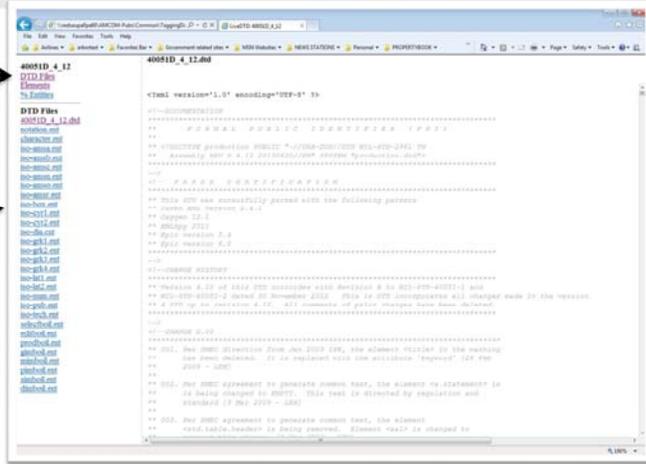
Click on the "+" to see where each name is used. This will be illustrated in another slide.



HTML LIVE DTD TOOL OVERVIEW

The DTD Files link is clicked.

The bottom left screen displays a list of the DTD files.



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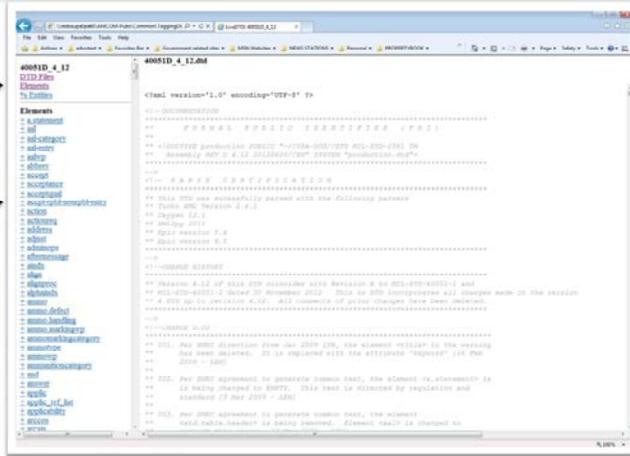


HTML LIVE DTD TOOL OVERVIEW

The Elements link is clicked.



The bottom left screen displays a list of the Elements (tags).



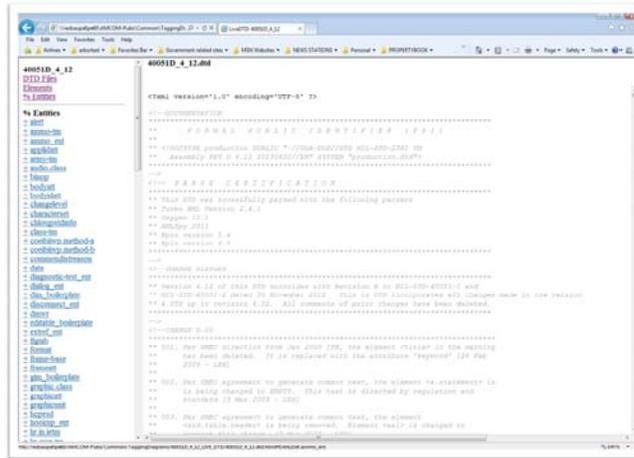
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HTML LIVE DTD TOOL OVERVIEW

The % Entities link is clicked.

The bottom left screen displays a list of the Entities.



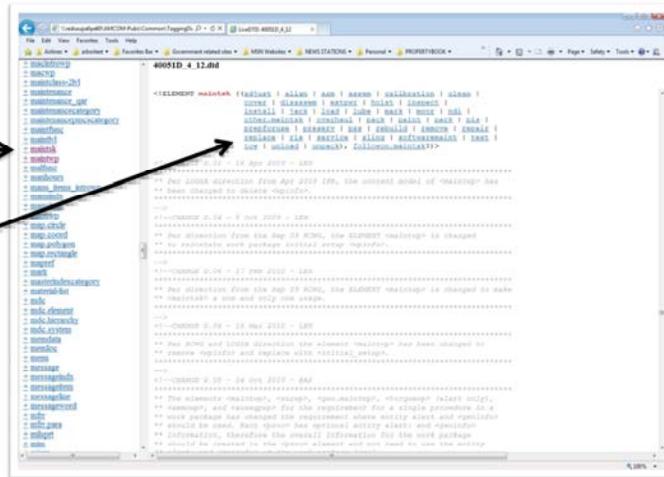
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HTML LIVE DTD TOOL OVERVIEW

Click an element on the left side of the window.

The right side of the screen displays the element's syntax.



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