
Subject: Another XML Question

Posted by [David Fanning](#) on Tue, 22 Mar 2005 17:42:42 GMT

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Folks,

OK, I'm lost again. :-(

I have an XML file that looks like this:

```
<CONFIGDATA>
<CAMPAIGN_ID>
  <TYPE>INT</TYPE>
  <VALUE>00</VALUE>
</CAMPAIGN_ID>
<SPAM_WAIT>
  <TYPE>INT</TYPE>
  <VALUE>60</VALUE>
  <UNITS>sec</UNITS>
</SPAM_WAIT>
<HEARTBEAT_TIME>
  <TYPE>INT</TYPE>
  <VALUE>60</VALUE>
  <UNITS>sec</UNITS>
</HEARTBEAT_TIME>
</CONFIGDATA>
```

I wish to make widgets that look something like this:

```
field = FSC_Field(tlb, Title='CAMPAIGN_ID' + ", Value=0, /Integer)
field = FSC_Field(tlb, Title='SPAM_WAIT' + ' (sec)', Value=60)
field = FSC_Field(tlb, Title='HEARTBEAT_TIME' + ' (sec)', Value=60)
```

Naturally, I wish to make them in a generic fashion from the XML file.

I cannot figure out how to pull out the information from the CAMPAIGN_ID element for example:

```
name: CAMPAIGN_ID
value: 00
units: n/a
```

Without knowing in my code that the element CAMPAIGN_ID exists.

I guess my question is this: How can I find all the sub-elements of CONFIGDATA in a generic way? (I can find ALL the elements in the file, but what I want is the first sub-elements of CONFIGDATA, then

all of *its* sub-elements, etc.) I find the documentation uh, vague. :-(

Thanks.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: Another XML Question

Posted by [James Kuyper](#) on Thu, 24 Mar 2005 16:43:22 GMT

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Karl Schultz wrote:

> On Wed, 23 Mar 2005 19:44:03 -0800, kuyper wrote:

>

>

>> Michael Wallace wrote:

>>

>>>> Oh, of course. Now what the hell is a DTD again?

>>>

>>> Document Type Definition.

>>> ...

>>> [Lots of good general-purpose information about DTDs]

>>

>> David's questions got me curious, so I spent a lot of time this

>> afternoon wading through the IDL documentation for it's XML objects. At

>> the end of that survey, I still couldn't figure out how to use a DTD in

>> connection with those objects. There's lots of things that say "if a

>> DTD is provided", but I couldn't find anything that indicated how to

>> provide a DTD. Could someone give some actual IDL code for this?

...

> In the example below, note the DOCTYPE element. It refers to a file named

> slideshow.dtd that contains the DTD, also shown below. The DTD info can

> actually be in the XML file itself, within the DOCTYPE element, but it is

> common to put the DTD in a different file for easier reuse.

If the DTD is stored as a separate file, which locations does IDL search for the DTD file, and in what order? Is there a repository of standard DTD files somewhere?

Subject: Re: Another XML Question

Posted by [Karl Schultz](#) on Thu, 24 Mar 2005 17:06:09 GMT

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On Thu, 24 Mar 2005 11:43:22 -0500, James Kuyper wrote:

> Karl Schultz wrote:

>> On Wed, 23 Mar 2005 19:44:03 -0800, kuyper wrote:

>>

>>

>>> Michael Wallace wrote:

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>> slideshow.dtd that contains the DTD, also shown below. The DTD info can
>> actually be in the XML file itself, within the DOCTYPE element, but it is
>> common to put the DTD in a different file for easier reuse.

>

> If the DTD is stored as a separate file, which locations does IDL search
> for the DTD file, and in what order? Is there a repository of standard
> DTD files somewhere?

If it is just a plain filename with no path, the DTD file would have to be in the same directory as the XML file. You could also reference a file with a pathname. There is no IDL-defined search order.

It is fairly common practice to put DTD's on the net and reference them with a URL.

Here is a DTD for XHTML:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

You might look for other "standard" DTD's at the w3.org site.

Karl

Subject: Re: Another XML Question

Posted by [JD Smith](#) on Thu, 24 Mar 2005 17:21:16 GMT

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On Thu, 24 Mar 2005 09:19:39 -0700, Karl Schultz wrote:

> On Wed, 23 Mar 2005 19:44:03 -0800, kuyper wrote:

>

>> Michael Wallace wrote:

>>>> Oh, of course. Now what the hell is a DTD again?

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>>> Document Type Definition.

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>>> [Lots of good general-purpose information about DTDs]

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>> David's questions got me curious, so I spent a lot of time this
>> afternoon wading through the IDL documentation for it's XML objects. At
>> the end of that survey, I still couldn't figure out how to use a DTD in
>> connection with those objects. There's lots of things that say "if a
>> DTD is provided", but I couldn't find anything that indicated how to
>> provide a DTD. Could someone give some actual IDL code for this?

>

> It is actually rather automatic and you don't really need IDL code for it.

>

> DTD's are actually "provided" by the XML doc itself referencing a DTD. If
> it does so and the `VALIDATION_MODE` keyword to `IDLffXMLDOMDocument::Init` or
> `Load` is set to 1, then the parser will validate the document using the
> DTD, if one is available.

>

> In the example below, note the `DOCTYPE` element. It refers to a file named
> `slideshow.dtd` that contains the DTD, also shown below. The DTD info can
> actually be in the XML file itself, within the `DOCTYPE` element, but it is
> common to put the DTD in a different file for easier reuse.

>

> When `VALIDATION_MODE` is 1, the parser will check the XML against the DTD
> and throw a parse error if the XML does not conform to the DTD. This is a
> HUGE deal when writing IDL code to parse the XML. If you know the XML doc
> passed the validation step, you can make tons of safe assumptions in your
> parser code and get to the job at hand. If you don't validate, your
> parser needs to be robust enough to deal with what might be a totally
> random XML file. Like, I could pass an XML file describing the channel
> lineup for my PVR to David's app that is expecting some special type of
> configuration data. It would be easier to let the parser throw a parse
> error than to write IDL code to discover the mistake.

I can't help but wonder here how much more quickly David would have progressed if his input file had been a simple text file like:

file config.txt

```
=====
CAMPAIGN_ID: 0
SPAM_WAIT: 60
HEARTBEAT_TIME: 60
=====
```

I bet he could have had that file parsing in 10 seconds or less. XML is nice. Overusing XML to be buzzword compliant, not so nice.

JD

```
> ++++++
>
> Here is the example :
>
>
> <?xml version='1.0' encoding='us-ascii'?>
>
> <!-- A SAMPLE set of slides -->
>
> <!DOCTYPE slideshow SYSTEM "slideshow.dtd">
>
> <slideshow
>   title="Sample Slide Show"
>   date="Date of publication"
>   author="Yours Truly"
>>
>
> <!-- PROCESSING INSTRUCTION -->
> <?my.presentation.Program QUERY="exec, tech, all"?>
>
> <!-- TITLE SLIDE -->
> <slide type="all">
>   <title>Wake up to WonderWidgets!</title>
> </slide>
>
> <!-- OVERVIEW -->
> <slide type="all">
>   <title>Overview</title>
>   <item>Why WonderWidgets are great</item>
>   <item/>
>   <item>Who buys WonderWidgets</item>
> </slide>
>
> <slide type="exec">
>   <title>Financial Forecast</title>
```

```
> <item>Market Size &lt; predicted!</item>
> <item>Anticipated Penetration</item>
> <item>Expected Revenues</item>
> <item>Profit Margin </item>
> </slide>
>
> </slideshow>
>
> The DTD (in file slideshow.dtd):
>
> <?xml version='1.0' encoding='us-ascii'?>
>
> <!--
>   DTD for a simple "slide show".
> -->
>
> <!ELEMENT slideshow (slide+)>
> <!ATTLIST slideshow
>     title  CDATA  #REQUIRED
>     date   CDATA  #IMPLIED
>     author CDATA  "unknown"
>>
> <!ELEMENT slide (image?, title, item*)>
> <!ATTLIST slide
>     type (tech | exec | all) #IMPLIED
>>
> <!ELEMENT title (#PCDATA)>
> <!ELEMENT item (#PCDATA | item)* >
> <!ELEMENT image EMPTY>
> <!ATTLIST image
>     alt  CDATA  #IMPLIED
>     src  CDATA  #REQUIRED
>     type CDATA  "image/gif"
>>
```

Subject: Re: Another XML Question

Posted by [David Fanning](#) on Thu, 24 Mar 2005 17:44:23 GMT

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JD Smith writes:

```
> I can't help but wonder here how much more quickly David would have
> progressed if his input file had been a simple text file like:
>
> file config.txt
>
> =====
```

> CAMPAIGN_ID: 0
> SPAM_WAIT: 60
> HEARTBEAT_TIME: 60
> =====
>
> I bet he could have had that file parsing in 10 seconds or less. XML is
> nice. Overusing XML to be buzzword compliant, not so nice.

Tell my client, please. He *likes* complicated. So far,
all pleas for simplification have fallen on deaf ears. :-)

On the other hand, he pays his bills. :-)

Cheers,

David

--

David Fanning, Ph.D.
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