

Technical Specification

DOM Tools in Progress 4GL

Introduction

The available statements in the 4GL to scan over XML documents loaded as a DOM are awkward to use. These sets of routines creates an easy to use subset of DOM scanning to read data and attributes of XML documents loaded into the application.

Dependent Documentation

Progress External Interfaces Guide (Version 9)

Architecture/Process

The DOMParse.p program is the entry point for the DOM parsing routines. One starts the procedure as a persistent procedure and then accesses internal procedures there in to scan the XML document.

It is quite simple to use where the arguments are based on the tag name, attribute name, and occurrence of the tag in the loaded XML file.

For example, given the XML file:

```
<?xml version="1.0" ?>

<Books>
  <Book>
    <Title subject="SciFi" entry="one">War OF The Worlds</Title>
  </Book>
  <Book>
    <Title subject="SciFi" entry="two">Battlestar Galactica</Title>
  </Book>
```

```

    <Book>
      <Title subject="SciFi" entry="three">Star Wars</Title>
    </Book>
  </Books>

```

The following program shows how to parse it:

```

DEFINE VARIABLE hDOM AS HANDLE NO-UNDO.
DEFINE VARIABLE iCount AS INTEGER NO-UNDO.
DEFINE VARIABLE cErr AS CHARACTER NO-UNDO.
DEFINE VARIABLE cData AS CHARACTER NO-UNDO.
DEFINE VARIABLE cSubject AS CHARACTER NO-UNDO.

RUN DOMParse.p PERSISTENT SET hDOM.

RUN LoadXMLDoc IN hDOM ("\\osxlaptop\scottauge\Desktop\DOM\test.xml").
RUN GetError IN hDOM (OUTPUT cErr).
IF NOT cErr BEGINS "000" THEN DO:
  DISPLAY cErr.
  RETURN.
END.

RUN NumOfTags IN hDOM ("Title", OUTPUT iCount).

RUN getElementByTagName IN hDOM ("Title", 2, OUTPUT cData).
DISPLAY cData.

RUN getAttributeByTagName IN hDOM ("Title", 2, "entry", OUTPUT cSubject).
DISPLAY cSubject.

DISPLAY iCount.

DELETE OBJECT hDOM.

```

Note: Inside DOMParse.p is a commented out function named fGetAttributeByTagName which wraps around the procedure call making it more easy to use.

Database Tables

N/A

Application Interfaces

DOMParse.p:LoadXMLDoc

Given an XML document, it will load it into Progress' DOM data area.

DOMParse.p:getElementByTagName

Given a tag name and it's occurrence, return the data associated with it's CTEXT area.

DOMParse.p:getHndlByTagName

Returns a handle to a sub-tree in the XML document. It's a way to create new instance of DOMParse.p and then set it's root node to this result and then parse only within that part of the tree.

DOMParse.p:GetInternalXMLHandle

Returns the handle to the root node in the instance.

DOMParse.p:SetInternalXMLHandle

Ability to set the root node in an instance of DOMParse.p.

DOMParse.p:ListAttributesOnTag

Given a tag name and occurrence, list the attributes on that tag. Some tags of the same name may have different attributes!

DOMParse.p:getAttributeByTagName

Given a tag name, occurrence, and attribute name, return the data associated with the attribute.

DOMParse.p:NumOfTags

Given a tag name, it will identify how many of the tags are available in the loaded xml document.

DOMParse.p:SetError

Given an error number, set an error message accessible by `GetError`. This is meant to be used internally unless the implementing programmer sets error message 000.

DOMParse.p:GetError

Retrieves an error set by the `SetError` routine. The following errors are available:

```
000  000:No Error
100  100:Couldn't Load XML File
101  101:Couldn't find root node
```

See `SetError`.

User Interfaces

N/A

File List

DOMParse.p

DOMCountTag.p
DOMFindAttr.p
DOMFindTag.p
DOMListAttrs.p

About

Source code developed by Amduus Information Works, Inc. <http://www.amduus.com> and contributors.
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