#### array (Array)

The array element defines the array [variant](variant.docx) type. Array contents must be of uniform [type](type.docx) as specified by the baseType attribute. The contents of an array are defined using repeated child elements of the appropriate [variant](variant.docx) type.

Multi-dimensional arrays can be defined by specifying the length of each dimension in the lBound and uBound attributes through the use of the "," delimiter. Child elements of multi-dimensional arrays are indexed along each dimension in the order the dimensions are declared.

In other words, the array shall be filled as follows:

* The first index shall be incremented to its maximum value [Example: [0,0,0] to [max,0,0] end example]
* The second index shall be incremented to its maximum value [Example: [0,1,0] to [0,max,0] end example]
* Subsequent indices shall be filled until all provided values have been added
* All other values shall have [null](null.docx) values within the array (i.e. no default value shall be assumed).

[Example: A 2x3 [variant](variant.docx) [type](type.docx) array of type "[i4](i4.docx)" is specified as follows:

<vt:array lBounds="0,0" uBounds="1,2" baseType="[i4](i4.docx)">  
 <vt:i4>0</vt:i4>  
 <vt:i4>1</vt:i4>  
 <vt:i4>2</vt:i4>  
 <vt:i4>3</vt:i4>  
 <vt:i4>4</vt:i4>  
</vt:array>

The resulting array: [0,0] = 0, [1,0] = 1, [0,1] = 2, [1,1] = 3, [0,2] = 4. end example]

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| Parent Elements |
| [property](property.docx) (§); [variant](variant.docx) (§) |

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| Child Elements | Subclause |
| [bool](bool.docx) (Boolean) | § |
| [bstr](bstr.docx) (Basic String) | § |
| [cy](cy.docx) (Currency) | § |
| [date](date.docx) (Date and Time) | § |
| [decimal](decimal.docx) (Decimal) | § |
| [error](error.docx) (Error Status Code) | § |
| [i1](i1.docx) (1-Byte Signed Integer) | § |
| [i2](i2.docx) (2-Byte Signed Integer) | § |
| [i4](i4.docx) (4-Byte Signed Integer) | § |
| [int](int.docx) (Integer) | § |
| [r4](r4.docx) (4-Byte Real Number) | § |
| [r8](r8.docx) (8-Byte Real Number) | § |
| [ui1](ui1.docx) (1-Byte Unsigned Integer) | § |
| [ui2](ui2.docx) (2-Byte Unsigned Integer) | § |
| [ui4](ui4.docx) (4-Byte Unsigned Integer) | § |
| [uint](uint.docx) (Unsigned Integer) | § |
| [variant](variant.docx) (Variant) | § |

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| Attributes | Description |
| baseType (Array Base Type) | The baseType attribute specifies the base [variant](variant.docx) [type](type.docx) of an array.  The allowed values are: [variant](variant.docx), [i1](i1.docx), [i2](i2.docx), [i4](i4.docx), [int](int.docx), [ui1](ui1.docx), [ui2](ui2.docx), [ui4](ui4.docx), [uint](uint.docx), [r4](r4.docx), [r8](r8.docx), [decimal](decimal.docx), [bstr](bstr.docx), date, [bool](bool.docx), [cy](cy.docx), and error.  The possible values for this attribute are defined by the [ST\_ArrayBaseType](ST_ArrayBaseType.docx) simple [type](type.docx) (§). |
| lBounds (Array Lower Bounds Attribute) | The lBounds attribute specifies the lower bound of an array in the format: #, #, # ... # where each # represents an integer.  The possible values for this attribute are defined by the XML Schema [int](int.docx) datatype. |
| uBounds (Array Upper Bounds Attribute) | The uBounds attribute specifies the upper bound of an array in the format: #, #, # ... # where each # represents an integer.  The possible values for this attribute are defined by the XML Schema [int](int.docx) datatype. |

The following XML Schema fragment defines the contents of this element:

<complexType name="CT\_Array">

<choice minOccurs="1" maxOccurs="unbounded">

<element ref="[variant](variant.docx)"/>

<element ref="[i1](i1.docx)"/>

<element ref="[i2](i2.docx)"/>

<element ref="[i4](i4.docx)"/>

<element ref="[int](int.docx)"/>

<element ref="[ui1](ui1.docx)"/>

<element ref="[ui2](ui2.docx)"/>

<element ref="[ui4](ui4.docx)"/>

<element ref="[uint](uint.docx)"/>

<element ref="[r4](r4.docx)"/>

<element ref="[r8](r8.docx)"/>

<element ref="[decimal](decimal.docx)"/>

<element ref="[bstr](bstr.docx)"/>

<element ref="[date](date.docx)"/>

<element ref="[bool](bool.docx)"/>

<element ref="[error](error.docx)"/>

<element ref="[cy](cy.docx)"/>

</choice>

<attribute name="lBounds" [type](type.docx)="xsd:int" use="required"/>

<attribute name="uBounds" [type](type.docx)="xsd:int" use="required"/>

<attribute name="baseType" [type](type.docx)="[ST\_ArrayBaseType](ST_ArrayBaseType.docx)" use="required"/>

</complexType>