### parameter (Parameter Properties)

This element stores properties about any [parameters](parameters.docx) used with external data connections. Parameters are used to change the [query](query.docx) executed externally and cause different data to be retrieved into the workbook. The type of parameter used – see ST\_parameterType (§) – determines whether the user will be prompted for a value before data is refreshed, or the value will be pulled from a [cell](cell.docx) in the [workbook](workbook.docx), or whether the same value should be used until explicitly changed in the data connection. Parameters are valid for ODBC and web queries.

[Example:

Data connectivity can use a number of different technologies. The following is an example of XML defining a [connection](connection.docx) to a Microsoft Access database, with a parameter based on the value in [cell](cell.docx) C1 on the first sheet.

<[connection](connection.docx) id="1" name="Connection" type="1" refreshedVersion="2"  
 background="1" saveData="1">  
 <[dbPr](dbPr.docx) [connection](connection.docx)="DSN=MS Access   
 Database;DBQ=C:\Desktop\db1.mdb;DefaultDir=C:\Desktop;DriverId=25;FIL=MS   
 Access;MaxBufferSize=2048;PageTimeout=5;" command="SELECT Table1.Field1,   
 Table1.Field2\_x000d\_\_x000a\_FROM `C:\Desktop\db1`.Table1   
 Table1\_x000d\_\_x000a\_WHERE (Table1.Field2=?)"/>

<[parameters](parameters.docx) count="1">  
 <parameter name="user specified value" sqlType="4" parameterType="[cell](cell.docx)"   
 [cell](cell.docx)="Sheet1!$C$1"/>  
 </[parameters](parameters.docx)>  
</[connection](connection.docx)>

end example]

Note that the command string in the [dbPr](dbPr.docx) element contains a "?" character. This character serves as a parameter marker.

[Note: Data connectivity can use a number of different technologies. One example of potential values stored in this attribute can be found at: http://msdn.microsoft.com/library/default.asp?url=/library/en-us/odbc/htm/odbcstatement\_parameters.asp end note]

|  |
| --- |
| Parent Elements |
| [parameters](parameters.docx) (§) |

|  |  |
| --- | --- |
| Attributes | Description |
| boolean (Boolean) | Boolean value to use as the [query](query.docx) parameter. Used only when parameterType = value.  The possible values for this attribute are defined by the XML [Schema](Schema.docx) boolean datatype. |
| [cell](cell.docx) (Cell Reference) | Cell [reference](reference.docx) indicating which cell's value to use for the [query](query.docx) parameter. Used only when parameterType = cell.  [Example:  <Parameter parameterType="[cell](cell.docx)" [cell](cell.docx)="Sheet1!$C$1">  end example]  The possible values for this attribute are defined by the [ST\_Xstring](ST_Xstring.docx) simple type (§). |
| double (Double) | Non-integer numeric value to use as the [query](query.docx) parameter. Used only when parameterType = value.  The possible values for this attribute are defined by the XML [Schema](Schema.docx) double datatype. |
| integer (Integer) | Integer value to use as the [query](query.docx) parameter. Used when parameterType = value.  The possible values for this attribute are defined by the XML [Schema](Schema.docx) int datatype. |
| [name](name.docx) (Parameter Name) | The name of the parameter.  The possible values for this attribute are defined by the [ST\_Xstring](ST_Xstring.docx) simple type (§). |
| parameterType (Parameter Type) | Type of parameter used. If the parameterType=value, then the value from boolean, double, integer, or string will be used. In this case, it is expected that only one of {boolean, double, integer, or string} will be specified.  The possible values for this attribute are defined by the [ST\_ParameterType](ST_ParameterType.docx) simple type (§). |
| prompt (Parameter Prompt String) | Prompt string for the parameter. Presented to the spreadsheet user along with input UI to collect the parameter value before refreshing the external data. Used only when parameterType = prompt.  The possible values for this attribute are defined by the [ST\_Xstring](ST_Xstring.docx) simple type (§). |
| refreshOnChange (Refresh on Change) | Flag indicating whether the [query](query.docx) should automatically refresh when the contents of a [cell](cell.docx) that provides the parameter value changes. If true, then external data is refreshed using the new parameter value every time there's a change. If false, then external data is only refreshed when requested by the user, or some other event triggers refresh (e.g., [workbook](workbook.docx) opened).  The possible values for this attribute are defined by the XML [Schema](Schema.docx) boolean datatype. |
| sqlType (SQL Data Type) | SQL data type of the parameter. Only valid for ODBC sources.  Supported [values](values.docx) include:   |  |  | | --- | --- | | -22 | SQL\_UNSIGNED\_OFFSET | | -20 | SQL\_SIGNED\_OFFSET | | -11 | SQL\_GUID | | -10 | SQL\_WLONGVARCHAR | | -9 | SQL\_WVARCHAR | | -8 | SQL\_WCHAR | | -7 | SQL\_BIT | | -6 | SQL\_TINYINT | | -5 | SQL\_BIGINT | | -4 | SQL\_LONGVARBINARY | | -3 | SQL\_VARBINARY | | -2 | SQL\_BINARY | | -1 | SQL\_LONGVARCHAR | | 0 | SQL\_UNKNOWN\_TYPE | | 1 | SQL\_CHAR | | 2 | SQL\_NUMERIC | | 3 | SQL\_DECIMAL | | 4 | SQL\_INTEGER | | 5 | SQL\_SMALLINT | | 6 | SQL\_FLOAT | | 7 | SQL\_REAL | | 8 | SQL\_DOUBLE | | 9 | SQL\_TYPE\_DATE or SQL\_DATE | | 10 | SQL\_TYPE\_TIME or SQL\_TIME | | 11 | SQL\_TYPE\_TIMESTAMP or SQL\_TIMESTAMP | | 12 | SQL\_VARCHAR | | 101 | SQL\_INTERVAL\_YEAR | | 102 | SQL\_INTERVAL\_MONTH | | 103 | SQL\_INTERVAL\_DAY | | 104 | SQL\_INTERVAL\_HOUR | | 105 | SQL\_INTERVAL\_MINUTE | | 106 | SQL\_INTERVAL\_SECOND | | 107 | SQL\_INTERVAL\_YEAR\_TO\_MONTH | | 108 | SQL\_INTERVAL\_DAY\_TO\_HOUR | | 109 | SQL\_INTERVAL\_DAY\_TO\_MINUTE | | 110 | SQL\_INTERVAL\_DAY\_TO\_SECOND | | 111 | SQL\_INTERVAL\_HOUR\_TO\_MINUTE | | 112 | SQL\_INTERVAL\_HOUR\_TO\_SECOND | | 113 | SQL\_INTERVAL\_MINUTE\_TO\_SECOND |   The possible values for this attribute are defined by the XML [Schema](Schema.docx) int datatype. |
| string (String) | String value to use as the [query](query.docx) parameter. Used only when parameterType = value.  The possible values for this attribute are defined by the [ST\_Xstring](ST_Xstring.docx) simple type (§). |

The following XML [Schema](Schema.docx) fragment defines the contents of this element:

<complexType [name](name.docx)="CT\_Parameter">

<attribute [name](name.docx)="[name](name.docx)" use="optional" type="[ST\_Xstring](ST_Xstring.docx)"/>

<attribute name="sqlType" use="optional" type="xsd:int" default="0"/>

<attribute name="parameterType" use="optional" type="[ST\_ParameterType](ST_ParameterType.docx)" default="prompt"/>

<attribute name="refreshOnChange" use="optional" type="xsd:boolean" default="false"/>

<attribute [name](name.docx)="prompt" use="optional" type="[ST\_Xstring](ST_Xstring.docx)"/>

<attribute [name](name.docx)="boolean" use="optional" type="xsd:boolean"/>

<attribute [name](name.docx)="double" use="optional" type="xsd:double"/>

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

<attribute [name](name.docx)="string" use="optional" type="[ST\_Xstring](ST_Xstring.docx)"/>

<attribute [name](name.docx)="[cell](cell.docx)" use="optional" type="[ST\_Xstring](ST_Xstring.docx)"/>

</complexType>