



Purpose and definition	2
Element type	2
Impact of element types in an XML file	2
Examples	3
Debtor mandatory in header	3
Limiting values in Max140Text	3
Creditor name mandatory	4

Purpose and definition

Context defines the scope of the OCL-statement and thus is a main part of the rule as a whole. It defines which part of the XML message is being checked by the restriction defined in OCL-statement.

Context is always given as an element type as it is defined by a schema.

Element type

Below is a visual description of the reference schema.

Schema element	Type	Occ.
Message ▾	Message	1...1
Header ▾	HeaderType1	1...1
Id	Max35Text	1...1
TimeStamp	DateTime	1...1
ControlSum	decimal	1...1
NumberOfTransactions	integer	1...1
Debtor ▾	PartyIdentification	0...1
Name	Max140Text	0...1
Transaction ▾	TransactionType1	1...*
Id	Max35Text	1...1
Amount	decimal	1...1
Debtor ▾	PartyIdentification	0...1
Name	Max140Text	0...1
Creditor ▾	PartyIdentification	1...1
Name	Max140Text	0...1

Each row depicts an XML element, first column stating the name and second stating the type.

One type may be used in multiple places within the schema. Id, for example, is present under Header and Transaction and both of their types is *Max35Text*. Debtor and Creditor also share the type of *PartyIdentification*.

Additionally, even when type exists only once in schema, said type may be present multiple times in an XML file. Transaction, for example does not have maximum occurrences defined and it is possible for one XML-file to contain multiple Transaction elements (therefore multiple complexTypes *TransactionType1*).

Impact of element types in an XML file

The restriction defined in an OCL rule is always executed when its type is found in an XML file in the validation process.

This means that a rule with simpleType *Max35Text* as context will be executed every time a *Max35Text* element is found in the XML file. Similarly, context *TransactionType1* is executed every time a Transaction is present in the file.

Consequences of this is that it can be used as a quick way to limit values for certain types when it is known that an exact business rule applies in many places. For example, if we wanted to limit Nm for Cdtr and

Dbtr, we could write a rule using *PartyIdentification* as context. However, if we wanted to only limit Dbtr/Nm length and keep Cdtr/Nm length as it is, using *PartyIdentification* as context would lead to invalid consequences, as it would apply for Cdtr as well. In this case, context would have to be *TransactionType1* and/or *HeaderType1*.

Examples

Please note that In order to make the examples in this section realistic, [OCL-statements](#) are included as well. OCL-statements are defined in the next wiki section, understanding them completely in this page is not required.

Debtor mandatory in header

The screenshot from myXML in the bottom left corner of this slide shows structure of one XML message. If we would like to create a rule which makes the debtor mandatory in the header we should set the context to be the Header.

- The OCL rule then "sees" the part which is highlighted in the picture in the bottom right corner
- If context would be set to be the Debtor itself then the rule would not be run at all if debtor is missing.

Context: HeaderType1

OCL: self.Debtor->size() = 1

Schema element	Type	Limit
Message	Message	1..1
Header	HeaderType1	1..1
Id	Max35Text	1..1
TimeStamp	DateTime	1..1
ControlSum	decimal	1..1
Debtor	PartyIdentification	0..1
Name	Max140Text	0..1
Transaction	TransactionType1	1..*
Id	Max35Text	1..1
Amount	decimal	1..1
Debtor	PartyIdentification	0..1
Name	Max140Text	0..1
Creditor	PartyIdentification	1..1
Name	Max140Text	0..1

Example XML

```
<?xml version="1.0" encoding="UTF-8"?>
<Message xmlns="http://www.XMLdation.com">
  <Header>
    <Id>MessageIdentification1</Id>
    <TimeStamp>2015-07-03T12:17:50</TimeStamp>
    <ControlSum>2</ControlSum>
  </Header>
  <Transaction>
    <Id>TransactionId1</Id>
    <Amount>1</Amount>
    <Debtor>
      <Name>Debtor1</Name>
    </Debtor>
    <Creditor>
      <Name>Creditor1</Name>
    </Creditor>
  </Transaction>
</Message>
```

Limiting values in Max140Text

Max140Text type can be seen in three different places in the schema. Amount of *Max140Text* instances in a XML file conforming to this schema can however be more or less. In the below XML example four instances are found.

Rule having *Max140Text* as a context is executed against each instance found from the file

Below rule states that *Max140Text* element has to be shorter than or equal of 70 characters.

Context: Max140Text

OCL: self.size() <= 70

Schema

Schema element	Type
Message	Message
Header	HeaderType1
Id	Max35Text
TimeStamp	DateTime
ControlSum	decimal
Debtor	PartyIdentification
Name	Max140Text
Transaction	TransactionType1
Id	Max35Text
Amount	decimal
Debtor	PartyIdentification
Name	Max140Text
Creditor	PartyIdentification
Name	Max140Text

Example XML

```

<?xml version="1.0" encoding="UTF-8"?>
<Message xmlns="http://www.XMLdata.com">
  <Header>
    <Id>MessageIdentification1</Id>
    <TimeStamp>2015-07-03T12:17:50</TimeStamp>
    <ControlSum>2</ControlSum>
  </Header>
  <Transaction>
    <Id>TransactionId1</Id>
    <Amount>1</Amount>
    <Debtor>
      #1 <Name>Debtor1</Name>
    </Debtor>
    <Creditor>
      #2 <Name>Creditor1</Name>
    </Creditor>
  </Transaction>
  <Transaction>
    <Id>TransactionId2</Id>
    <Amount>1</Amount>
    <Debtor>
      #3 <Name>Debtor2</Name>
    </Debtor>
    <Creditor>
      #4 <Name>Creditor2</Name>
    </Creditor>
  </Transaction>
</Message>

```

Creditor name mandatory

Simple example of making a rule which sets one element to be mandatory requires some thought and planning beforehand to know what context to use.

For example, if we wanted to make a rule which sets Creditor / Name to be mandatory, setting context to be Max140Text would make the rule to be executed against all instances of Max140Text elements. Also if element of that type is missing, the rule would not be run. Setting context to be PartyIdentification, the rule would be run against all instances of that element, so also Debtors – and we only wanted to make Creditor name mandatory.

Correct context for making Creditor name mandatory would be to use *TransactionType1* as context

Context: TransactionType1

OCL: self.Creditor->size() = 1

implies

self.Creditor.Name->size() = 1

Schema element	Type	Limit
Message	Message	1..1
Header	HeaderType1	1..1
Id	Max35Text	1..1
TimeStamp	DateTime	1..1
ControlSum	decimal	1..1
Debtor	PartyIdentification	0..1
Name	Max140Text	0..1
Transaction	TransactionType1	1..*
Id	Max35Text	1..1
Amount	decimal	1..1
Debtor	PartyIdentification	0..1
Name	Max140Text	0..1
Creditor	PartyIdentification	1..1
Name	Max140Text	0..1

Next section of the guide describes [OCL statement](#).