

## What is OCL?

OCL (Object Constraint Language) is a query language originally developed for describing rules for UML models. OCL is managed by Object Management Group (OMG) and it is part of the UML standard. The official specifications can be found from OMG web pages at <http://www.omg.org/spec/OCL/>.

## XMLdation service and OCL

In XMLdation service XML Schemas are mapped as UML models, allowing restrictions to XML schemas to be created with OCL. Java code is generated based on the OCL definitions and executed against XML files in a [validation process](#).

The benefit of this is that we do not have to edit the underlying schema in any way; the schema and all of its restrictions stay as they are. Therefore creating and maintaining business rules only involves maintaining a series of OCL rules, which can be done with the XMLdation Studio.

## Content of this guide

The purpose of this guide is to provide all necessary information to write business rules with OCL.

The guide consists of following parts:

1. [Description of a rule](#)
2. [Concept of context](#)
3. [OCL statement](#)
4. [OCL query](#)
5. [Collections](#)
6. [Relationships](#)
7. [Actions](#)

In addition, following reference is included

- [Available methods for OCL base types](#)
- [Example OCL rules](#)
- [Example action rules](#)
- [Mapping between schema datatypes and OCL datatypes](#)

The collection of rules in **example rules written in OCL** should already help a lot when implementing new rules, as it includes examples of "real world" usage of business rules in payment messages. A more detailed usage for all available methods is listed in **available methods of OCL base types**.

List of all available **data types in XML schemas mapped to OCL data types** states how different data types are interpreted by OCL.

## Reference schema

Multiple pages within this section use a specific pre-made schema as a reference to explain logic of rules.

[The schema](#) and an [example file](#) is attached on this page. Below is a screenshot 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	0..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

#### External links and further reading

Please note that this section of the wiki only focused on OCL as a language to depict rules. XMLdation offers a tool for writing and maintaining business rules in OCL language in a tool called Studio. User guide on how to use Studio is also available in a separate wiki section.

Other sources providing information regarding OCL are below:

[OCL Rule User Guide](#), by Nomos Software, 2015

[OCL Quick Reference](#), by Eoin Woods, July 2005

[OCL Operations Reference](#), by Eclipse Foundation