



OLVDL Reference

DRAFT

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Table of contents

1 Preface.....	1
2 Element Reference.....	2
3 Attribute-Reference.....	6
3.1 FORMAT.....	6
3.2 LINE.....	6
3.3 EACH.....	6
3.4 PRINT.....	7
3.5 FIELD.....	7
4 Var Tree.....	10
4.1 Introduction.....	10
5 Appendix A – Examples.....	11
6 Appendix B – Document Type Definition.....	13

Open-LIMS Values Description Language - Reference

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1 Preface

This document describes the elements and their attributes of the XML-based “Open LIMS Values Description Language” (OLVDL). The OLVDL is used by the “data”-module to define the structure of forms.

Use “Values” to enter non-file data into Open-LIMS, e.g. data from measuring instruments, specific comments or information about material, samples or projects.

Notice: This document is a draft. New elements and attributes in OLVDL might be added in the future.

2 Element Reference

OLVDL

OLVDL is the root element of each OLVDL Template. There are no elements outside OLVDL except the doctype and the XML-definition.

Appearance	Once
Parent Elements	<i>none</i>
Child Element	HEAD; BODY
Attributes	<i>none</i>

HEAD

Defines the meta-information-area of a template.

Appearance	Once
Parent Elements	OLVDL
Child Element	ID, TITLE, DESC, VERSION, AUTHOR
Attributes	<i>none</i>

BODY

Defines the area of the form itself.

Appearance	Once
Parent Elements	OLVDL
Child Element	FORMAT, EACH, PRINT, FIELD
Attributes	<i>none</i>

FORMAT

Defines an area which will be formatted automatically.

Appearance	Multiple
Parent Elements	BODY, EACH
Child Element	LINE, EACH
Attributes	colspan

LINE

Defines a line.

Appearance	Multiple
Parent Elements	EACH, FORMAT
Child Element	PRINT, FIELD
Attributes	colspan

EACH

Defines an area which will be repeated for each element given by the “var”-string, e.g. a list of samples.

Appearance	Multiple
Parent Elements	BODY, FORMAT
Child Element	PRINT, FIELD, LINE, FORMAT
Attributes	var

PRINT

Prints a value or the result of a “var”-string. Prints an error, if “var” returns an array.

Appearance	Multiple
Parent Elements	BODY, EACH, LINE
Child Element	<i>none</i>
Attributes	var, value, format, width

FIELD

Prints a single- or multi-line text-field, a dropdown-menu or a checkbox for user input.

Appearance	Multiple
Parent Elements	BODY, EACH, LINE
Child Element	<i>none</i>
Attributes	name, display_name, length, type, default, format, var, vartype, value, size, set

AUTOFIELD

Creates an Autofield. Autofield is an area where the user can define their own fields.

Appearance	Multiple
Parent Elements	BODY
Child Element	<i>none</i>
Attributes	<i>none</i>

TITLE

Defines the title of a template. This information is required for the import of the template.

Appearance	Once
Parent Elements	HEAD
Child Element	<i>none</i>
Attributes	<i>none</i>

ID

Defines the ID of a Template. This information is required for the import of the template.

Appearance	Once
Parent Elements	HEAD
Child Element	<i>none</i>
Attributes	<i>none</i>

DESC

Defines the description of a template.

Appearance	Once
Parent Elements	HEAD
Child Element	<i>none</i>
Attributes	<i>none</i>

VERSION

Defines the version of a template.

Appearance	Once
Parent Elements	HEAD
Child Element	<i>none</i>
Attributes	<i>none</i>

AUTHOR

Defines the author(s) of a template.

Appearance	Once
Parent Elements	HEAD
Child Element	<i>none</i>
Attributes	<i>none</i>

3 Attribute-Reference

3.1 FORMAT

Attribute	Values	Default	Required
colspan	#INT1, #INT2, ... , #INTn	<i>none</i>	No

Attribute	Description
colspan	Defines the span of each column (LINE-element)

3.2 LINE

Attribute	Values	Default	Required
colspan	#INT	<i>none</i>	No

Attribute	Description
colspan	Defines the span of the current element

3.3 EACH

Attribute	Values	Default	Required
var	#OLVAR	#OLVAR	Yes

Attribute	Description
var	An OLVDL-var address

3.4 PRINT

Attribute	Values	Default	Required
value	#CHAR	#CHAR	Yes (No if "var" is given)
var	#OLVAR	#OLVAR	Yes (No if "value" is given)
format	#CHAR	FormField	No
width	#INT	#INT	No

Attribute	Description
value	Defines the printed string
var	Prints the result of an OLVDL-var address
format	CSS-Class of the current element
width	Width (in pixel) of the current element

3.5 FIELD

Attribute	Values	Default	Required
name	#CHAR	#CHAR	Yes
display_name	#CHAR	#CHAR	No
default	#CHAR	#CHAR	NO
length	#INT	optional	No
type	textfield, textarea, checkbox, dropdown	textfield	No
vartype	string, int, float	string	No
format	#CHAR	FormField	No
var	#OLVAR	#OLVAR	No
value	#CHAR	#CHAR	No
size	#INT,#INT	#INT,#INT	Yes (textarea only)
set	#OLVAR	#OLVAR	No

Attribute	Description
name	Internal name of the field
display_name	Shown name in generated graphs
default	Default value of the field
length	Length of a textfield or a dropdown-menu
type	Defines the type of the field
vartype	Defines the type of the content
format	A css defined class
var	An OLVDL-var address
value	Defines entries for Dropdown-Menus
size	Site of a Textarea (Columns, Rows)
set	Sets an internal Open-LIMS value or creates a new one

Types

Textfield

A single-line field.

Textarea

A multi-line field. The specification of the size is obligatory for this field-type.

Checkbox

A checkbox.

Dropdown

A field with predefined value. The user is enabled to select one of these values.

Separator for user defined values is “;”. Example:

```
<field name="test" type="dropdown" value="Entry 1;;Entry 2;;Entry 3" />
```

Type-Matrix

	Textfield	Textarea	Checkbox	Dropdown
name	Required	Required	Required	Required
display_name	Optional	Optional	Optional	Optional
default	Optional	Optional	Forbidden	Optional
length	Optional	Forbidden	Forbidden	Optional
type	Optional	Optional	Optional	Optional
vartype	Optional	Optional	Forbidden	Forbidden
format	Optional	Optional	Optional	Optional
var	Optional	Optional	Optional	Optional
value	Optional	Optional	Optional	Optional
size	Forbidden	Required	Forbidden	Forbidden
set	Optional	Optional	Optional	Optional

4 Var-Tree

4.1 Introduction

The Var-Tree allows to access on different information on the current value and its environment. If the value is in a project, sample or material, it enables to access information on it and other available items.

The Var-Tree consists of different element, read from left to right, which creates an array or a single string. The next element reduces the returning-set of its previous element.

A closer description of the Var-Tree will follow in a further version of this document.

5 Appendix A – Examples

Structure of an OLVDL document

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE OLVDL PUBLIC "-//OLVDL 0.4//EN"
    "http://doctype.open-lims.org/olvdl.dtd" >
<OLVDL>
  <HEAD>
    <ID>999999000</ID>
    <TITLE>A Value</TITLE>
  </HEAD>
  <BODY>
    {...}
  </BODY>
</OLVDL>
```

Example of fields

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE OLVDL PUBLIC "-//OLVDL 0.4//EN"
    "http://doctype.open-lims.org/olvdl.dtd" >
<OLVDL>
  <HEAD>
    <ID>999999000</ID>
    <TITLE>A Value</TITLE>
  </HEAD>
  <BODY>
    <FORMAT>
      <LINE>
        <PRINT value="Field 1: " />
        <FIELD name="f1" type="textfield" />
      </LINE>
      <LINE>
        <PRINT value="Field 2: " />
        <FIELD name="f2" type="textarea"
            size="53,15" />
      </LINE>
      <LINE>
        <PRINT value="Field 3: " />
        <FIELD name="f3" type="dropdown"
            value="value 1;; value 2;; value 3" />
      </LINE>
      <LINE>
        <PRINT value="Field 4: " />
        <FIELD name="f4" type="checkbox" />
      </LINE>
    </FORMAT>
  </BODY>
</OLVDL>
```

Three column design

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE OLVDL PUBLIC "-//OLVDL 0.4//EN"
    "http://doctype.open-lims.org/olvdl.dtd" >
<OLVDL>
  <HEAD>
    <ID>999999000</ID>
    <TITLE>A Value</TITLE>
  </HEAD>
  <BODY>
    <FORMAT>
      <LINE>
        <PRINT value="Field 1: " />
        <FIELD name="f1c1" type="textfield" />
        <FIELD name="f1c2" type="textfield" />
      </LINE>
      <LINE>
        <PRINT value="Field 2: " />
        <FIELD name="f2c1" type="textfield" />
        <FIELD name="f2c2" type="textfield" />
      </LINE>
      <LINE colspan='1,2'>
        <PRINT value="Field 1: " />
        <FIELD name="f1c1" type="textfield" />
      </LINE>
    </FORMAT>
  </BODY>
</OLVDL>
```

An “each”-element example – specified values for each sample of a project

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE OLVDL PUBLIC "-//OLVDL 0.4//EN"
    "http://doctype.open-lims.org/olvdl.dtd" >
<OLVDL>
  <HEAD>
    <ID>999999000</ID>
    <TITLE>A Value</TITLE>
  </HEAD>
  <BODY>
    <FORMAT>
      <EACH var="this.item.sample.list.typeof.c1">
        <LINE>
          <PRINT var="item.each.getName" />
        </LINE>
        <LINE>
          <PRINT value="Field 1:">
          <FIELD name="f1" type="textfield" />
        </LINE>
      </EACH>
    </FORMAT>
  </BODY>
</OLVDL>
```

6 Appendix B – Document Type Definition

The Document Type Definition (DTD) is not a part of this draft.