



*International
Virtual
Observatory
Alliance*

VODML Mapping Lite Syntax

Version 1.0

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Working group

DM

This version

<http://www.ivoa.net/documents/cab-msd/20200422>

Latest version

<http://www.ivoa.net/documents/cab-msd>

Previous versions

This is the first public release

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Abstract

???? Abstract ????

Status of this document

This is an IVOA Note expressing suggestions from and opinions of the authors. It is intended to share best practices, possible approaches, or other perspectives on interoperability with the Virtual Observatory. It should not be referenced or otherwise interpreted as a standard specification.

A list of current IVOA Recommendations and other technical documents can be found at <http://www.ivoa.net/documents/>.

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Acknowledgments

???? Or remove the section header ????

Conformance-related definitions

The words “MUST”, “SHALL”, “SHOULD”, “MAY”, “RECOMMENDED”, and “OPTIONAL” (in upper or lower case) used in this document are to be interpreted as described in IETF standard RFC2119 (?).

The *Virtual Observatory (VO)* is a general term for a collection of federated resources that can be used to conduct astronomical research, education, and outreach. The [International Virtual Observatory Alliance \(IVOA\)](#) is a global collaboration of separately funded projects to develop standards and infrastructure that enable VO applications.

1 Introduction

???? Write something ????

1.1 Role within the VO Architecture

Fig. 1 shows the role this document plays within the IVOA architecture (?).
???? and so on, LaTeX as you know and love it. ????

2 Use Cases and Requirement

This alternative mapping syntax keeps the same basics as the original proposal:

PDF fallback.

Sorry - your ImageMagick (convert) does not support SVG import. If on Linux, installing librsvg2-bin should remedy this. Otherwise, please commit your SVG and ask the ivoatex creators to do the the conversion.

Figure 1: Architecture diagram for this document

3 Syntax

- This mapping syntax support directive for the clients which are not part of the model (e.g. aggregation request or data filters).
- The mapping as an explicit entry point, telling to the client what is the VOTable content.
- Processing this alternate syntax require for the client to apply rules not states in the VOTable itself.
- The mapping is located in a <VODML> block, child of <VOTABLE>.
- The mapping elements reflect the model structure.
- The <VODML> block starts with a list of implemented models.
- There is one <TEMPLATES> per mapped <TABLE>.
- There is one <GLOBALS> block containing data shared by the whole mapping.

3.1 GLOBALS

Contains INSTANCES with fixed values that can be used everywhere in the VODML.

```
<GLOBALS>
  <INSTANCE ID="SpaceCoordFrame" dmrole="">
    <INSTANCE dmrole="coords:SpaceFrame.refPosition" dmtype="coords:StdRefLocation">
```

```

    <VALUE dmrole="coords:StdRefLocation.position" dmtype="ivoa:string" value="NoS
  </INSTANCE>
  <VALUE dmrole="coords:SpaceFrame.spaceRefFrame" dmtype="ivoa:string" value="ICR
    <VALUE dmrole="coords:SpaceFrame.equinox" dmtype="coords:Epoch" value="NoSet"/>
  </INSTANCE>
  <INSTANCE >
    ...
  </INSTANCE>
  ...
</GLOBALS>

```

Listing 1: INSTANCE bloc example

Child	Role
INSTANCE	GLOBALS children must be INSTANCE .

Table 1: Supported GLOBALS children

GLOBALS has no attributes.

3.2 INSTANCE

Mapping for either object type or a datatype instances.

```

<INSTANCE dmrole="ds:dataset.Dataset.dataID" dmtype="ds:dataset.DataID" ID="_ds_">
  <VALUE dmrole="ds:dataset.DataID.title" value="Gaia TS Mapping Test" />
  <VALUE dmrole="ds:dataset.DataID.datasetID" value="ivoa://gaia/ts/12345" />
  <VALUE dmrole="ds:dataset.DataID.creatorDID" value="ivoa://esa/gaia/" />
  <VALUE dmrole="ds:dataset.DataID.version" value="0.0" />
  <VALUE dmrole="ds:dataset.DataID.date" value="2018:11:11" />
  <VALUE dmrole="ds:dataset.DataID.creationType" value="LiteMappingTest" />
  <INSTANCE dmrole="ds:dataset.DataID.creator" dmtype="ds:dataset.Creator">
    <INSTANCE dmrole="ds:party.Role.party" dmtype="ds:party.Individual">
      <VALUE dmrole="ds:party.Party.name" value="VODML-Team" />
    </INSTANCE>
  </INSTANCE>
</INSTANCE>

```

Listing 2: INSTANCE bloc example

3.3 VALUE

Mapping for primitive attributes. VALUE are the model leaves that point onto real data.

Child	Role
INSTANCE	Another embedded instance .
VALUE	Primitive attribute .
COMPOSITION	Composition with a limited set of INSTANCE e.g. author list
ARRAY	Composition with a set of INSTANCE corresponding each to one row of the data table.
FILTER	TbC

Table 2: Supported INSTANCE children

Attribute	Requ. level	Role
@dmrole	Mandatory	VODML role of the instance. May be empty for instances child of GLOBALS
@dmtype	Mandatory except for reference	VODML type of the instance.
@dmref	Mandatory for reference	reference to another instance in the mapping bloc.
@ID	Mandatory if the instance is referenced by other instances	Unique identifier of the instance.

Table 3: Supported attributes for INSTANCE

@dmrole	@dmref	@dmtype	use case
yes	yes		Reference to another instance. The element must have no child
yes		yes	Instance serialization The element must enclose the instance content

Table 4: Supported attribute patterns for INSTANCE

```

<INSTANCE dmrole="model:value.example" dmtype="model:value.Example">
  <VALUE dmrole="model:preset.value" value="Preset Value" />
  <VALUE dmrole="model:ref.value" ref="fieldID" />
  <VALUE dmrole="model:reforpreset.value" value="Preset Value" ref="fieldID" />
</INSTANCE>

```

Listing 3: VALUE examples

VALUES have no children.

Attribute	Requ. level	Role
@dmrole	MUST	VODML role of the instance attribute.
@dmtype	MUST	VODML type of the instance attribute.
@value	MUST if no @ref element attribute. MAY if @ref element attribute	Value of the instance attribute. If VALUE has also a @ref, @ref MUST be resolved first. VALUE MUST be taken when @ref cannot be resolved
@ref	MUST if no @value element attribute. MAY if @value element attribute	Reference of the data element (FIELD or PARAM). MUST refer to an element of the TABLE referenced by the current TEMPLATE The client MUST first look for a FIELD matching @ref. In case of failure, it MUST look for a PARAM

Table 5: Supported attributes for VALUE

@dmrole	@dmtype	@ref	@value	Role
yes	yes	yes		The instance attribute must take the value pointed by @ref
yes	yes		yes	The instance attribute must take the value set in @value
yes	yes	yes	yes	The instance attribute must take the value pointed by @ref and the this set in @value if @ref cannot be resolved

Table 6: Supported attribute patterns for VALUE

A Changes from Previous Versions

No previous versions yet.