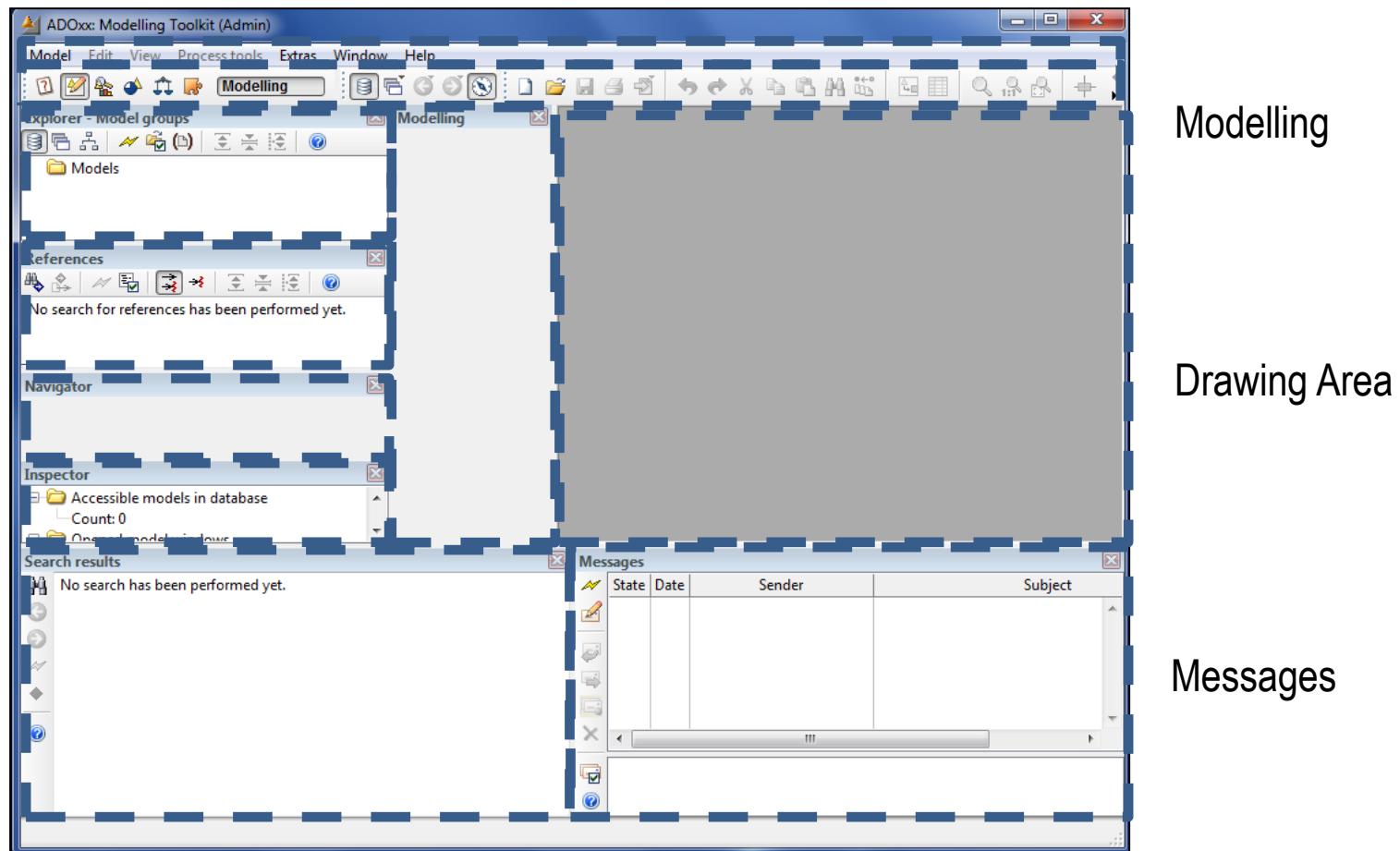


Introduction of ADOxx

ADOxx

▶ Development of Modeling Toolkit

Menubar



Modelling

Actionbar

Explorer

References

Navigator

Inspector

Drawing Area

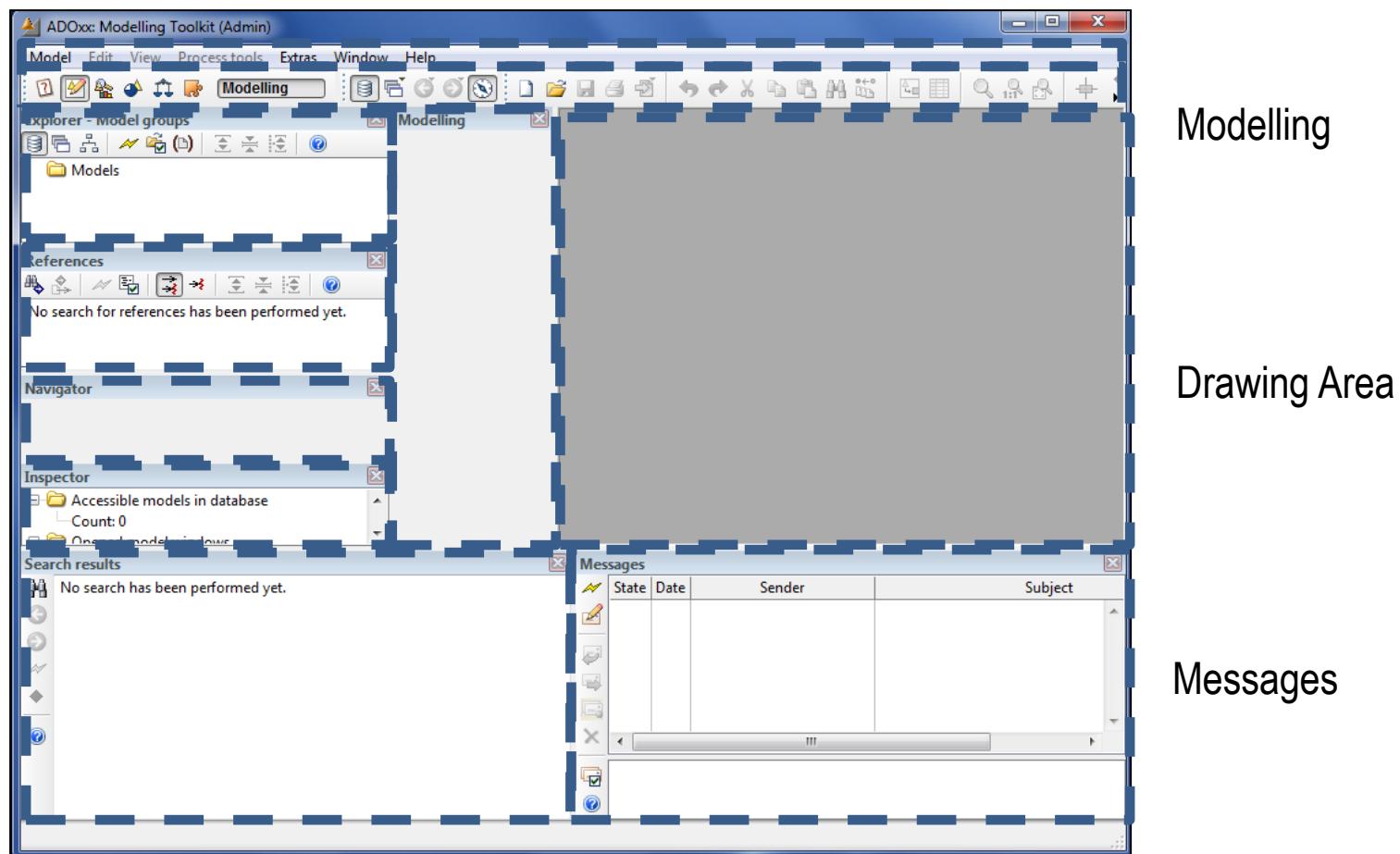
Search
Results

Messages

ADOxx

- ▶ Can you develop these tools using C or JAVA?

Menubar



Actionbar

Modelling

Explorer

Drawing Area

References

Navigator

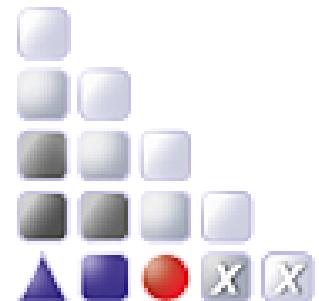
Messages

Inspector

Search
Results

ADOxx

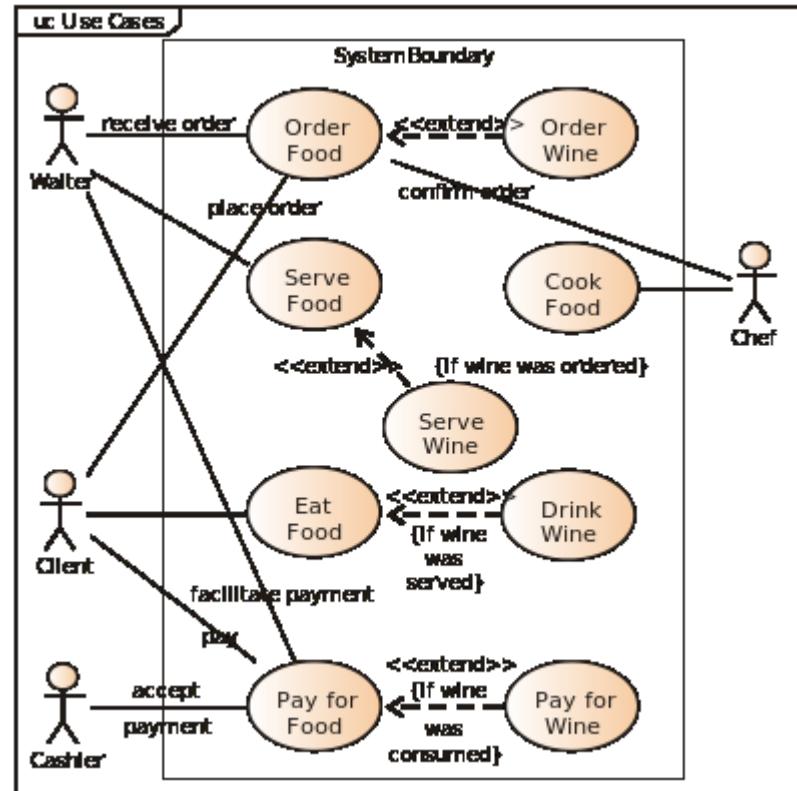
- ▶ Meta Modeling Platform developed by OMiLAB in University of Vienna
- ▶ Tool to create modeling tool based on meta model



ADOxx

► Meta model ?

- Model
 - Patterns, plans, or descriptions to illustrate structure or operations
- Example
 - Use case diagram



ADOxx

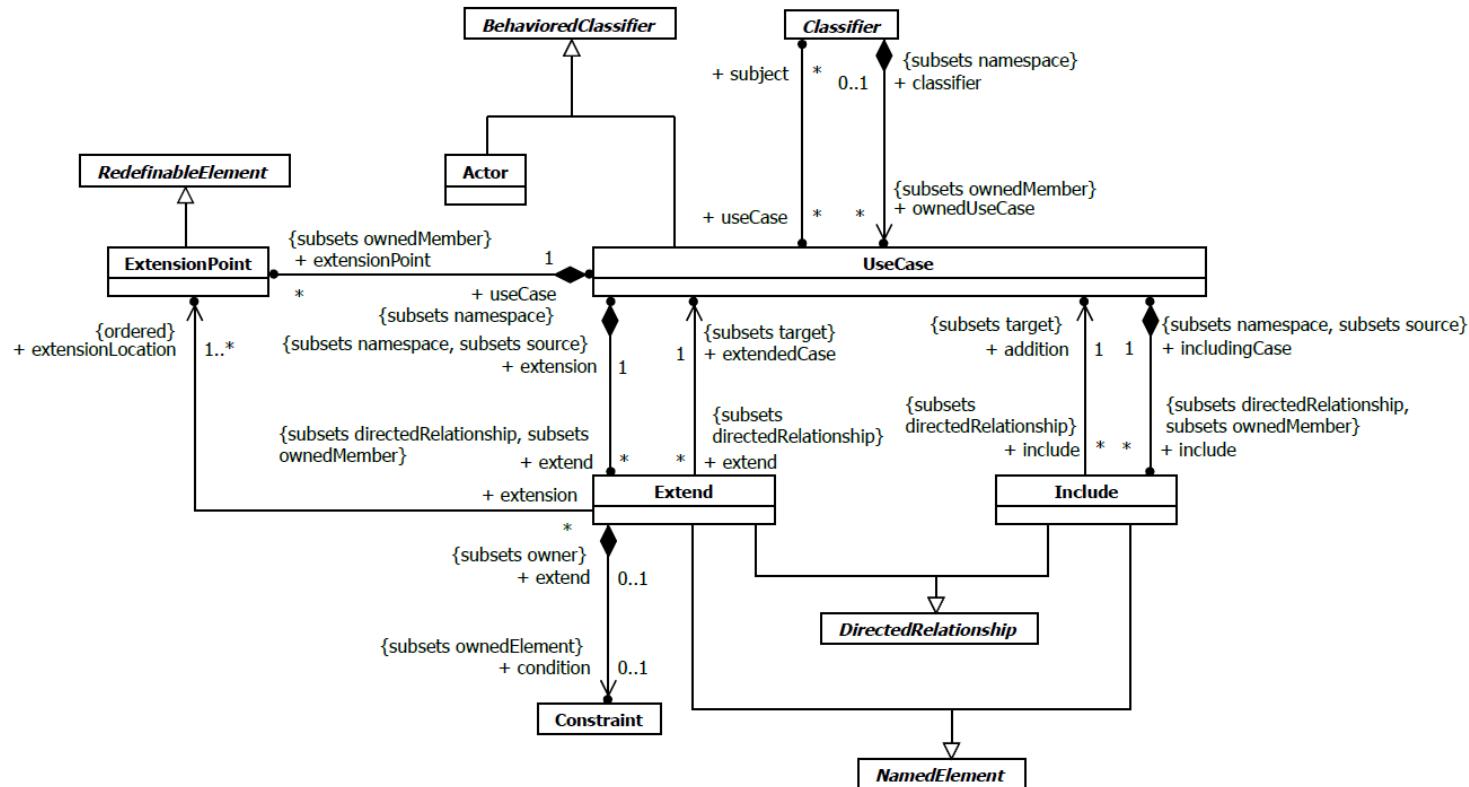
- ▶ Meta model ?
- ▶ Modeling Language
 - ▶ Modeling constructs and their relations to each other to declare a model
- ▶ Example
 - ▶ Use case diagram
 - UseCase
 - Actor
 - Association
 - ...

ADOxx

- ▶ Meta model ?
- ▶ Meta model
 - ▶ The model of the syntax of the modeling language
- ▶ Example
 - ▶ Meta model(Use case diagram)

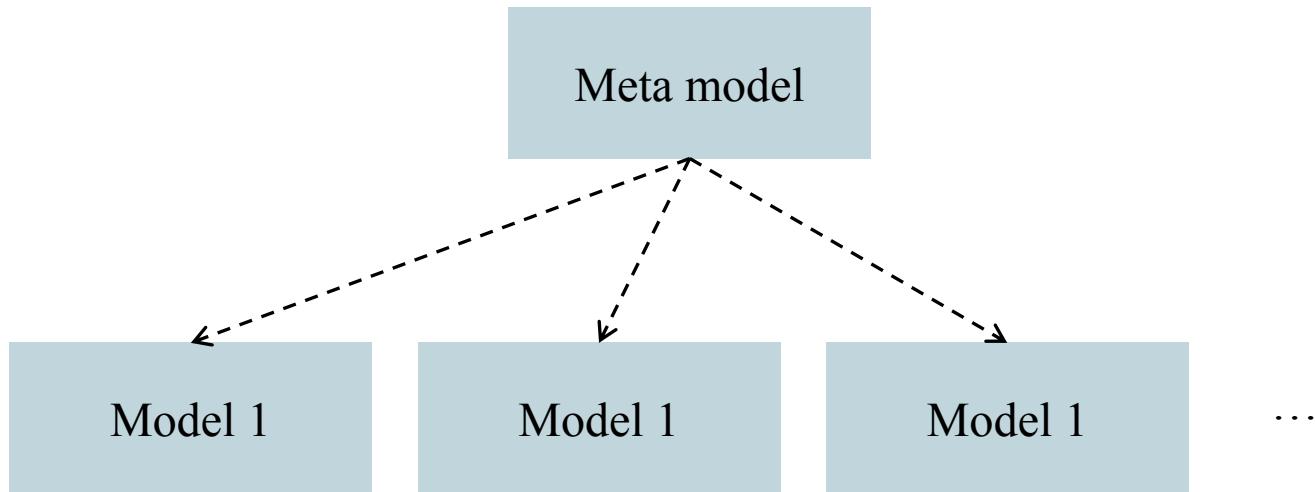
ADOxx

► Meta model ?



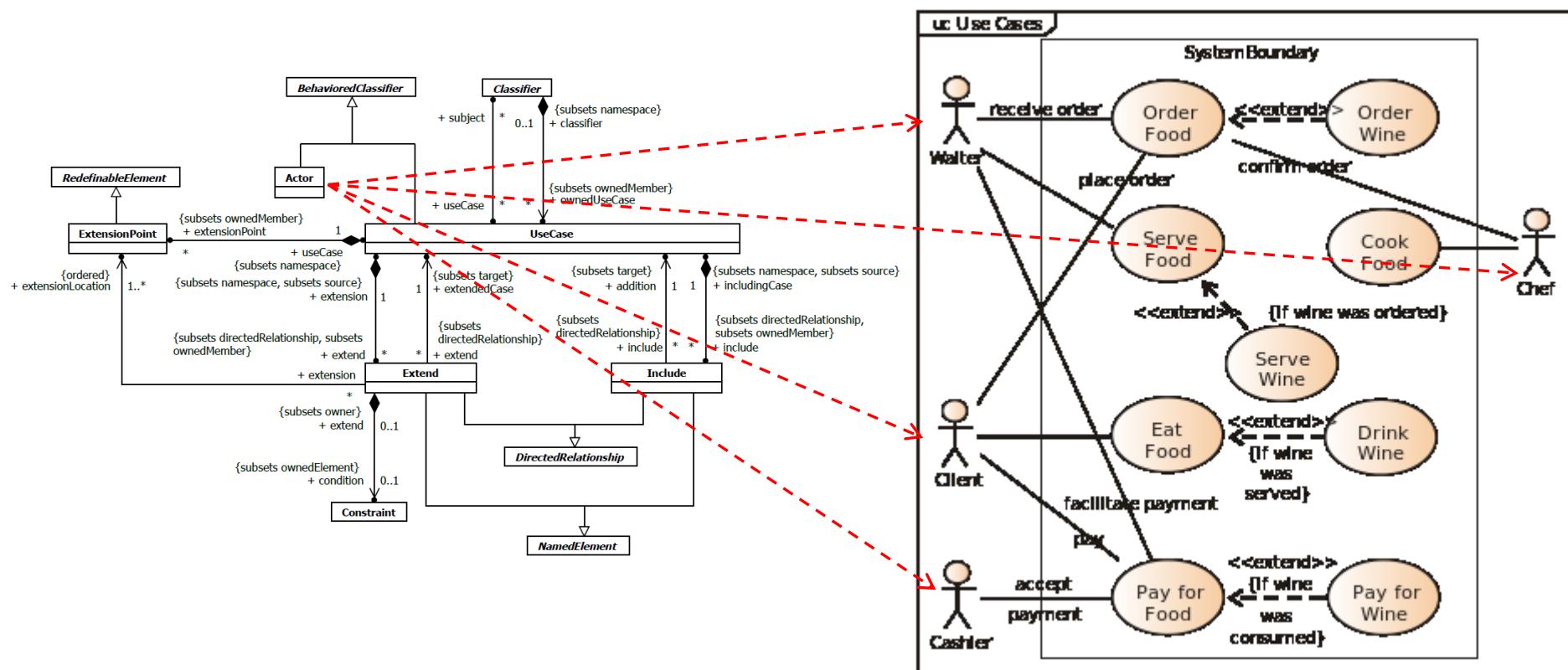
ADOxx

- ▶ Model & Meta model
 - ▶ Model ↔ Meta model
 - ▶ Object (instance) ↔ Class in object-oriented programming



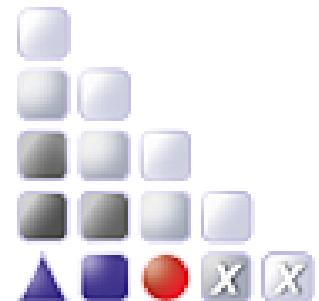
ADOxx

- ▶ Model & Meta model
- ▶ Model ↔ Meta model
 - ▶ Object (instance) ↔ Class in object-oriented programming



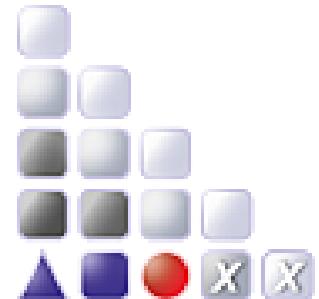
ADOxx

- ▶ Meta Modeling Platform developed by OMiLAB in University of Vienna
- ▶ Tool to create modeling tool based on **meta model**



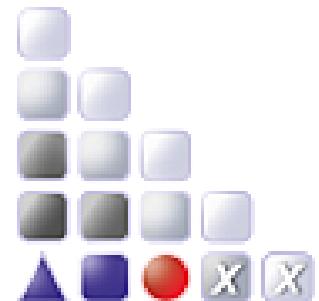
ADOxx

- ▶ Meta Modeling Platform developed by OMILAB in University of Vienna
- ▶ Tool to create modeling tool based on **meta model**
 - ▶ Tool to define a meta model and to create a model based on the defined meta model



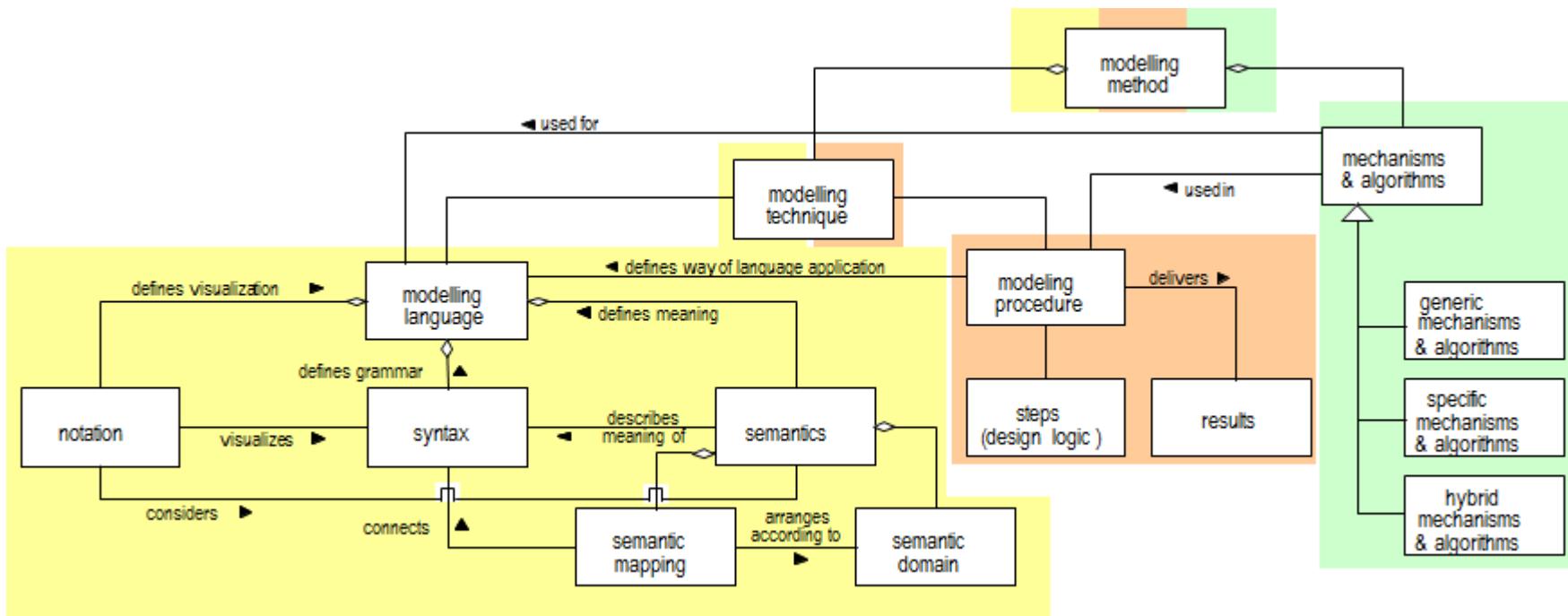
ADOxx

- ▶ Meta Modeling Platform developed by OMILAB in University of Vienna
- ▶ Tool to create modeling tool based on **meta model**
 - ▶ Tool to define a meta model and to create a model based on the defined meta model
- ▶ Tool to develop a **modeling method**



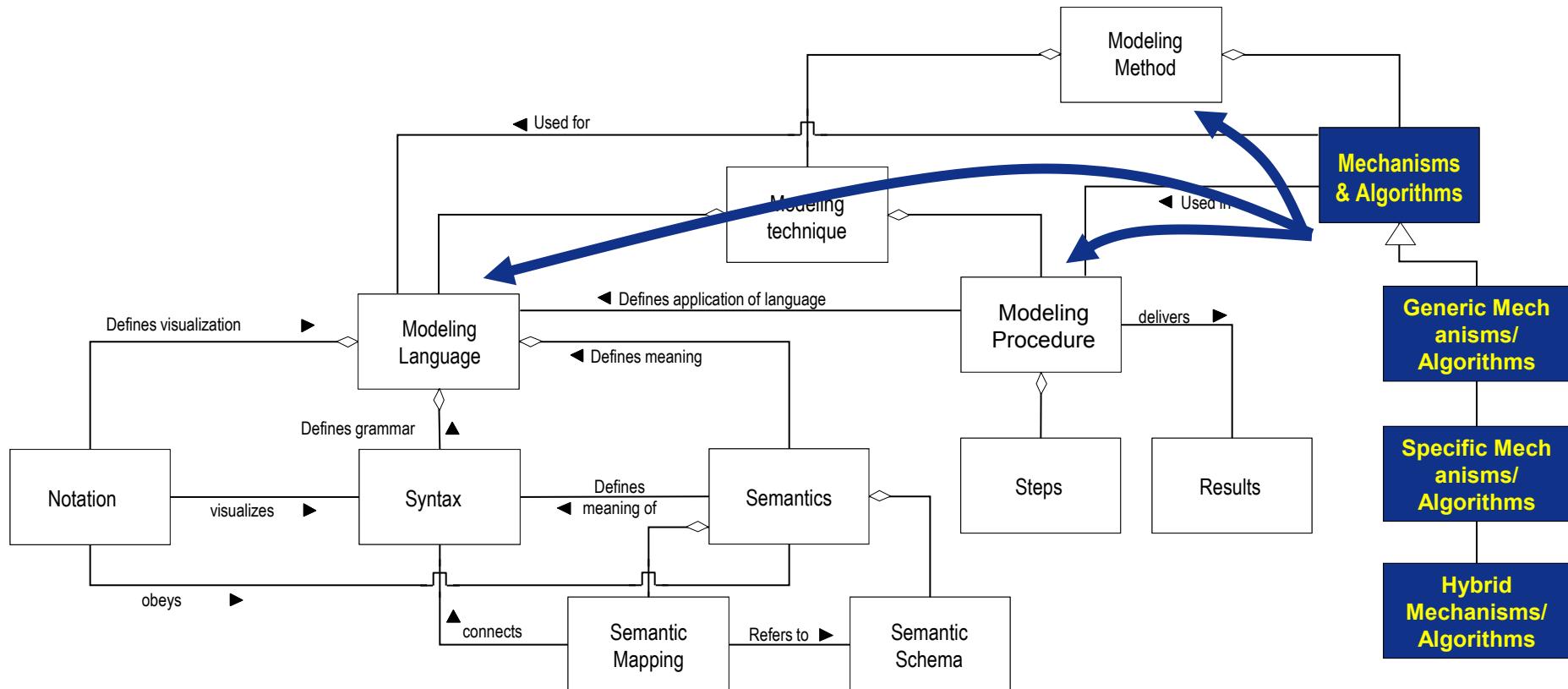
ADOxx

► Modeling method

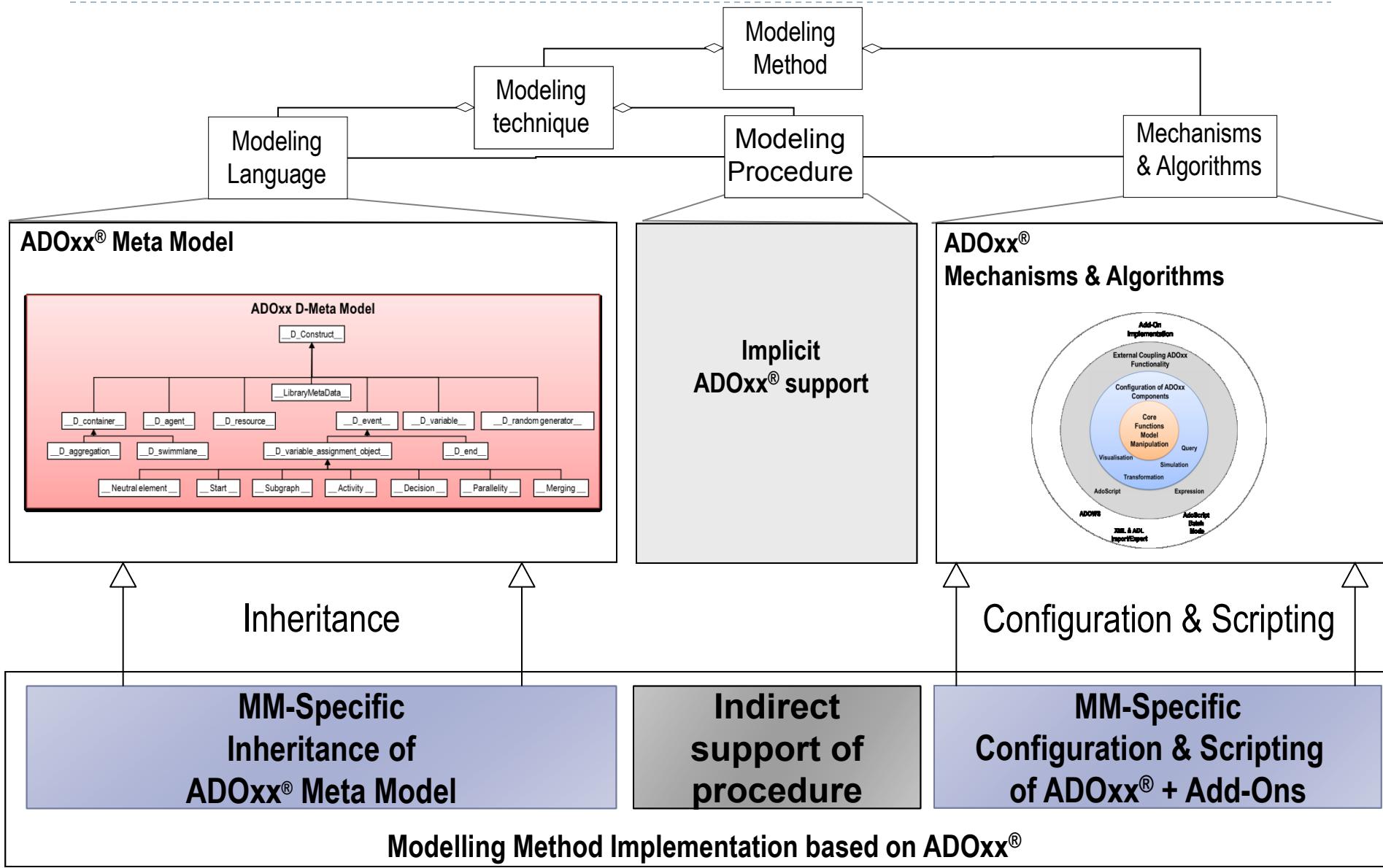


ADOxx

► Modeling method

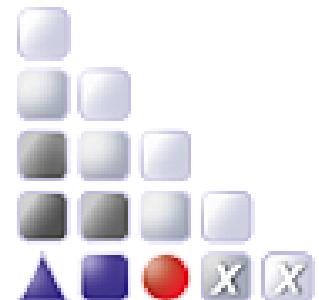


ADOxx



ADOxx

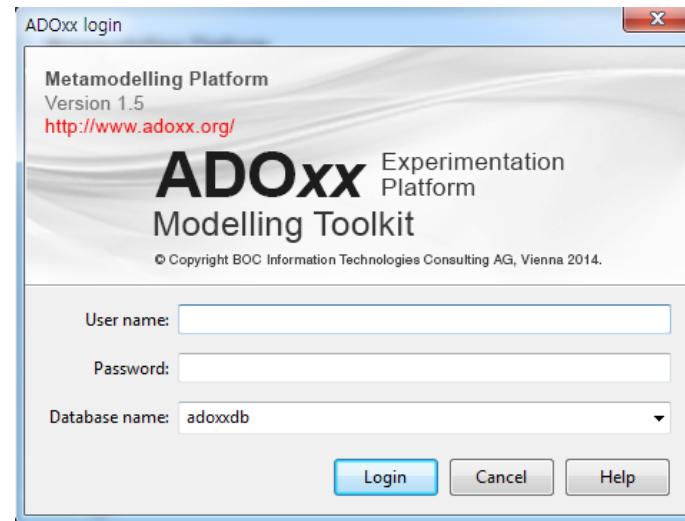
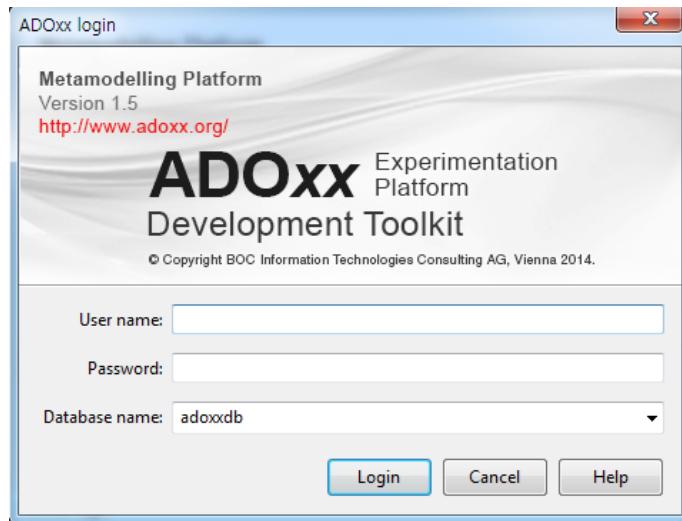
- ▶ Meta Modeling Platform developed by OMILAB in University of Vienna
- ▶ Tool to create modeling tool based on **meta model**
 - ▶ Tool to define a meta model and to create a model based on the defined meta model
- ▶ Tool to develop a **modeling method**
 - ▶ Define a meta model
 - ▶ Develop mechanisms and algorithms



ADOxx Toolkits

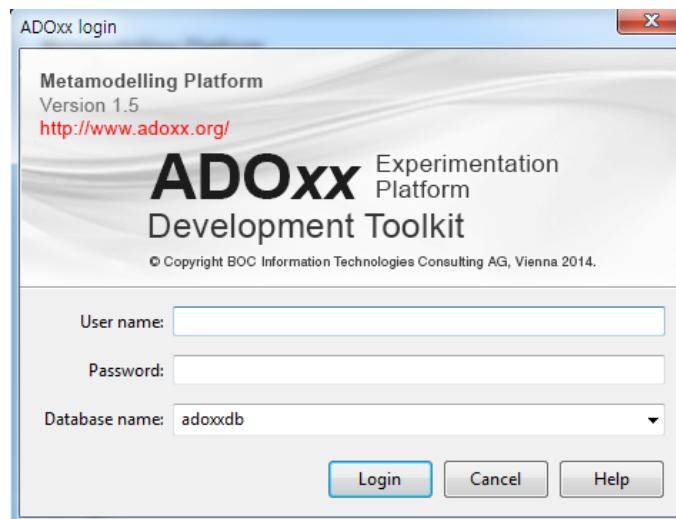
ADOxx

► ADOxx Toolkits

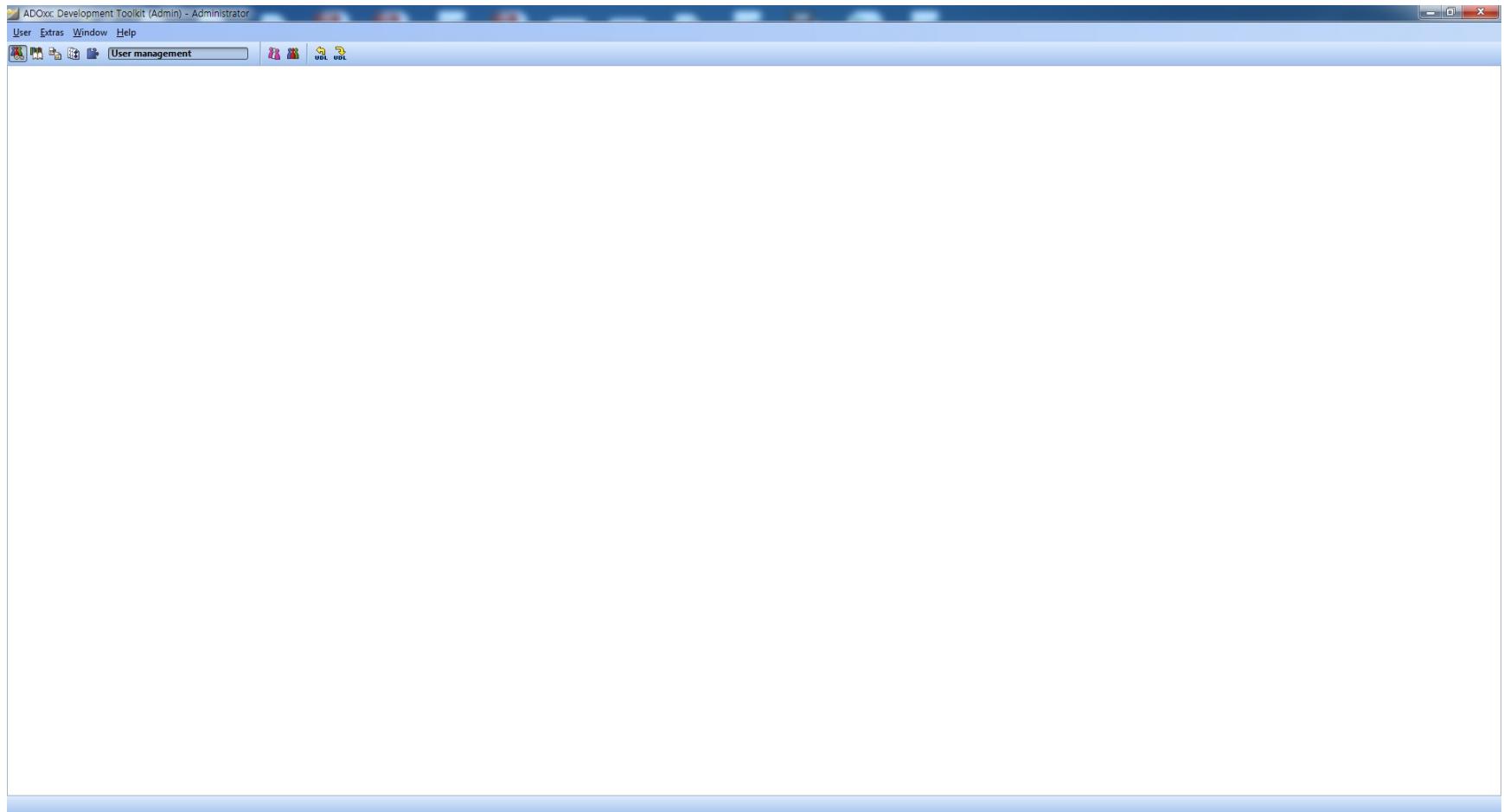


ADOxx Development Toolkit

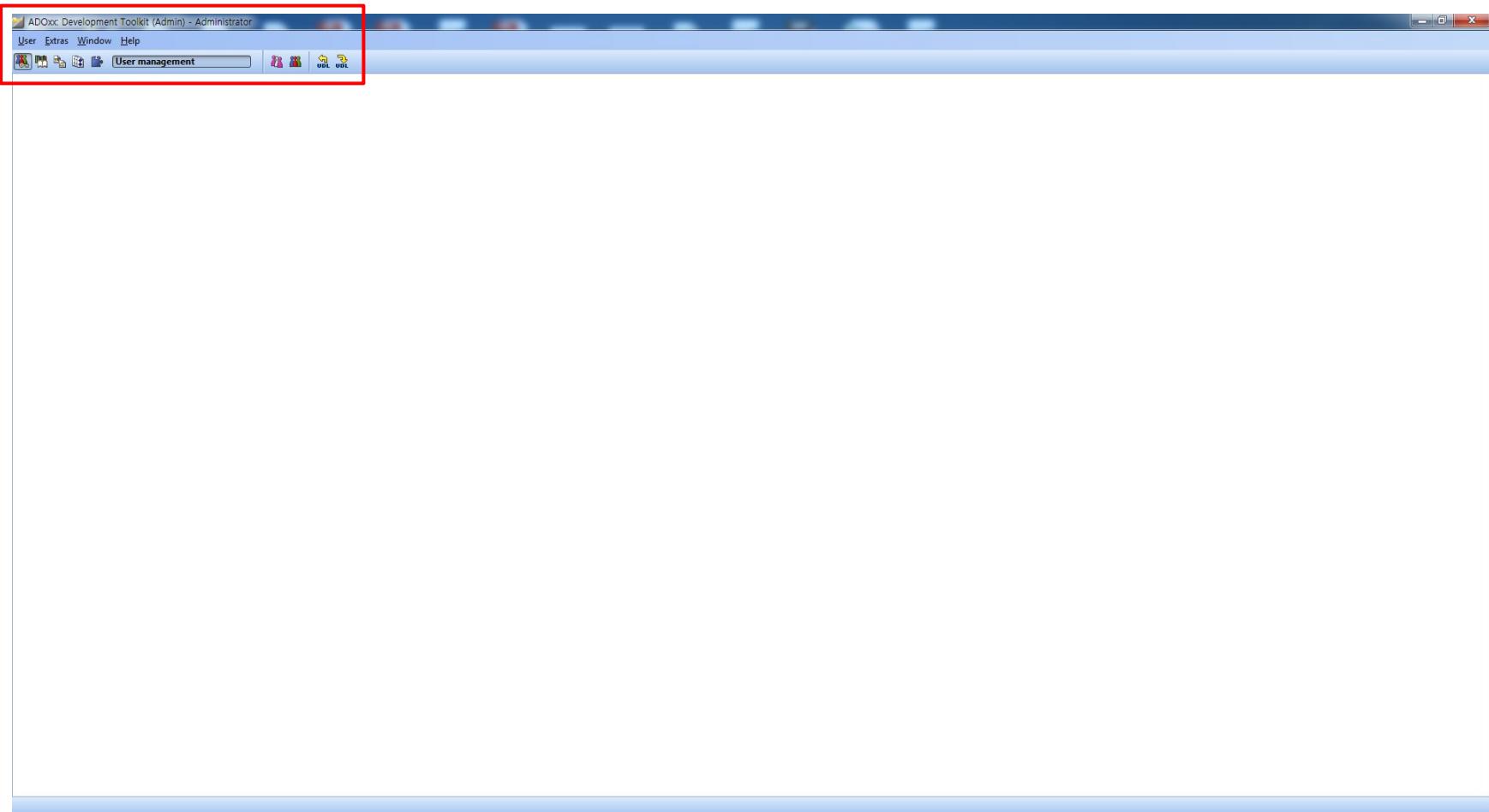
- ▶ ADOxx Development Toolkit
 - ▶ User name: admin or Admin
 - ▶ Password: password



ADOxx Development Toolkit

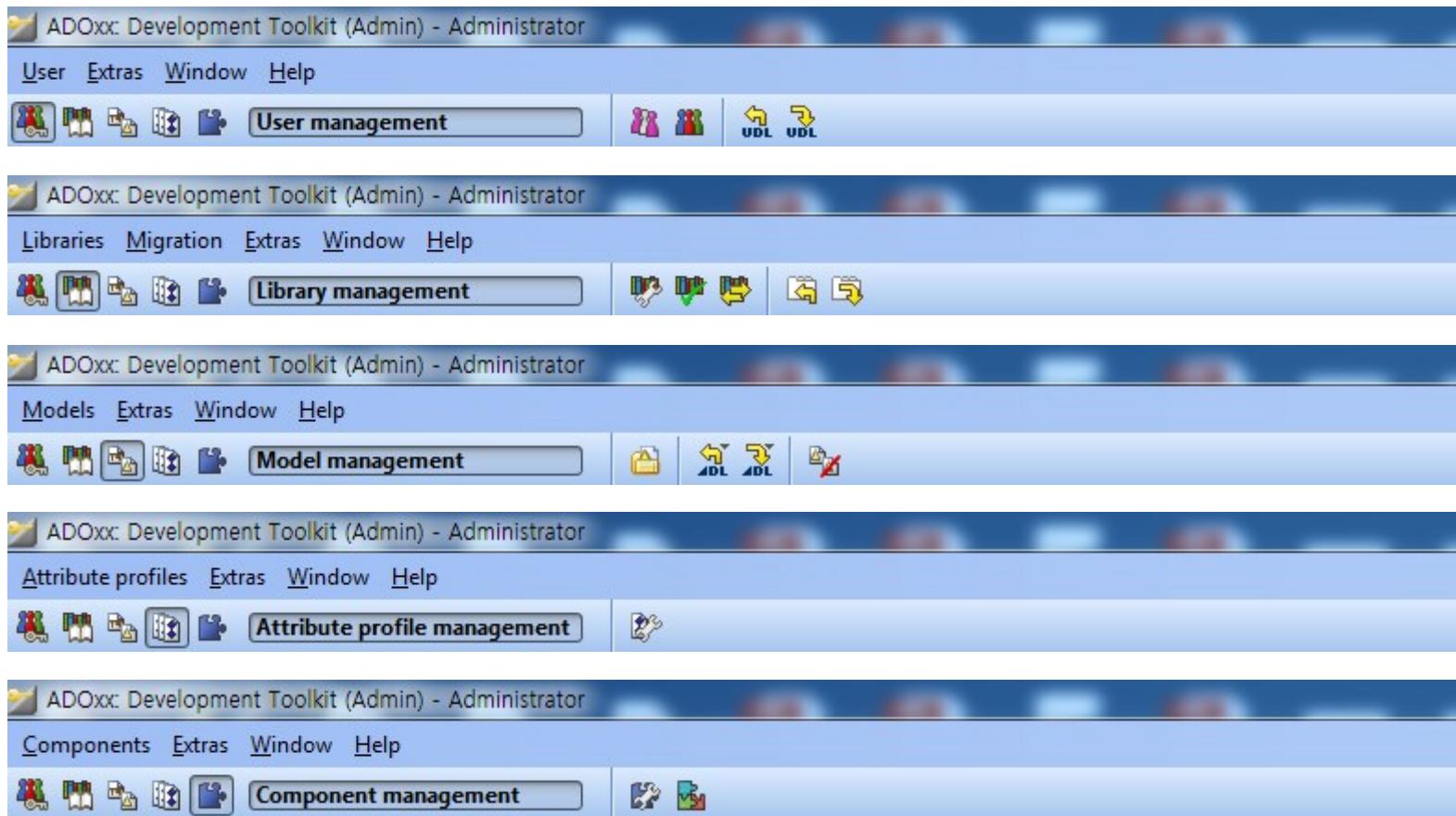


ADOxx Development Toolkit

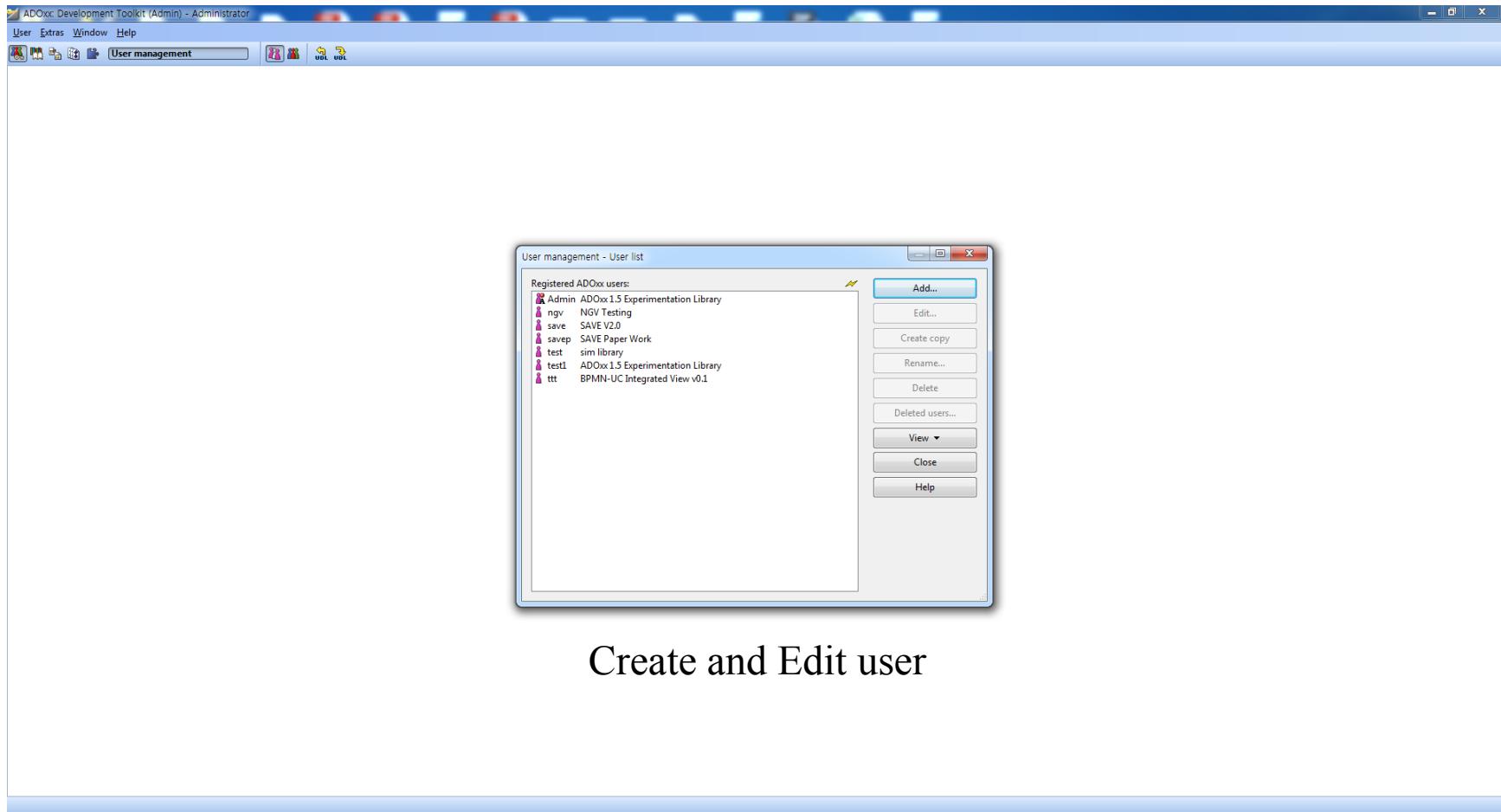


ADOxx Development Toolkit

► Components

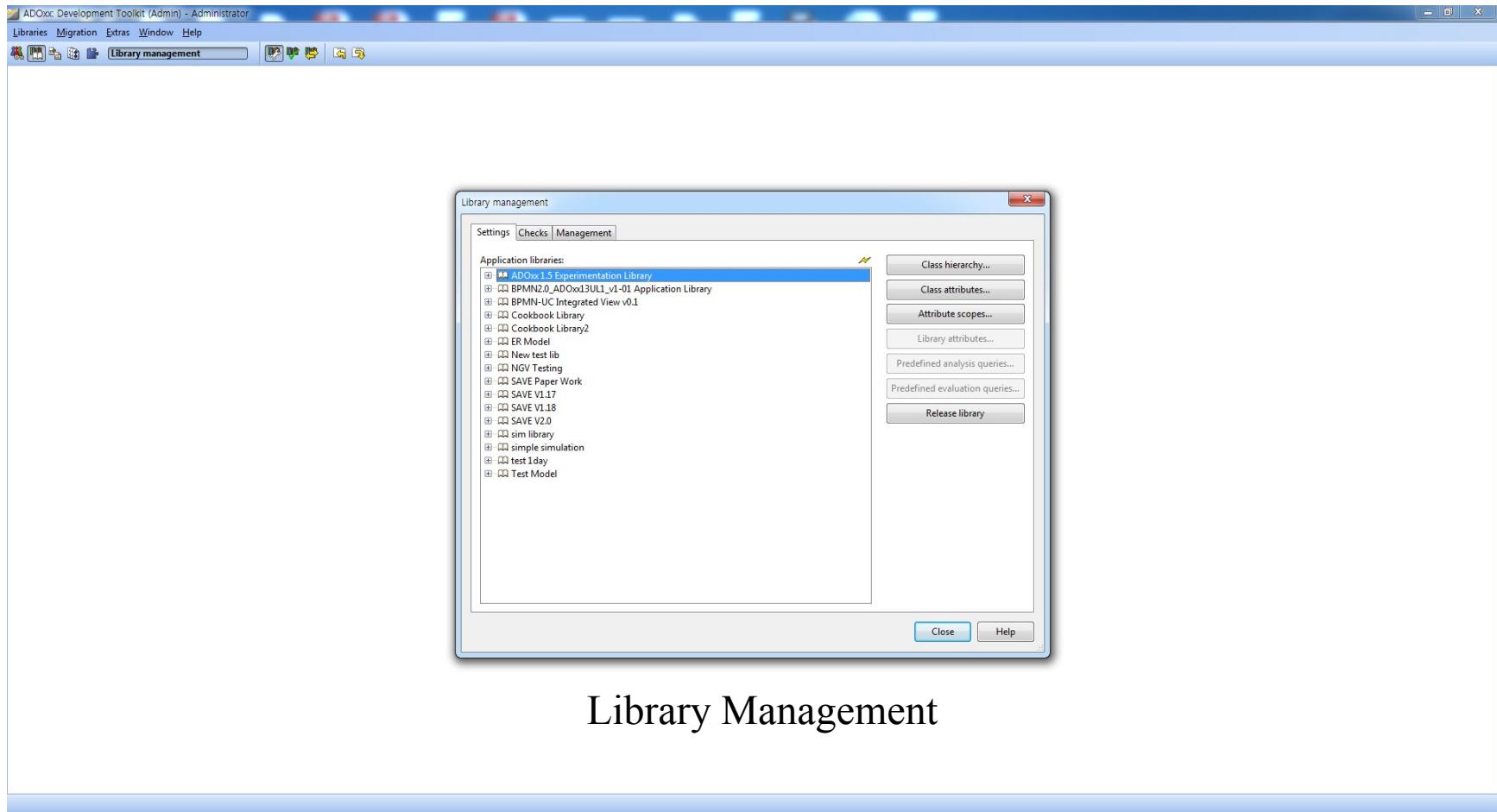


ADOxx Development Toolkit



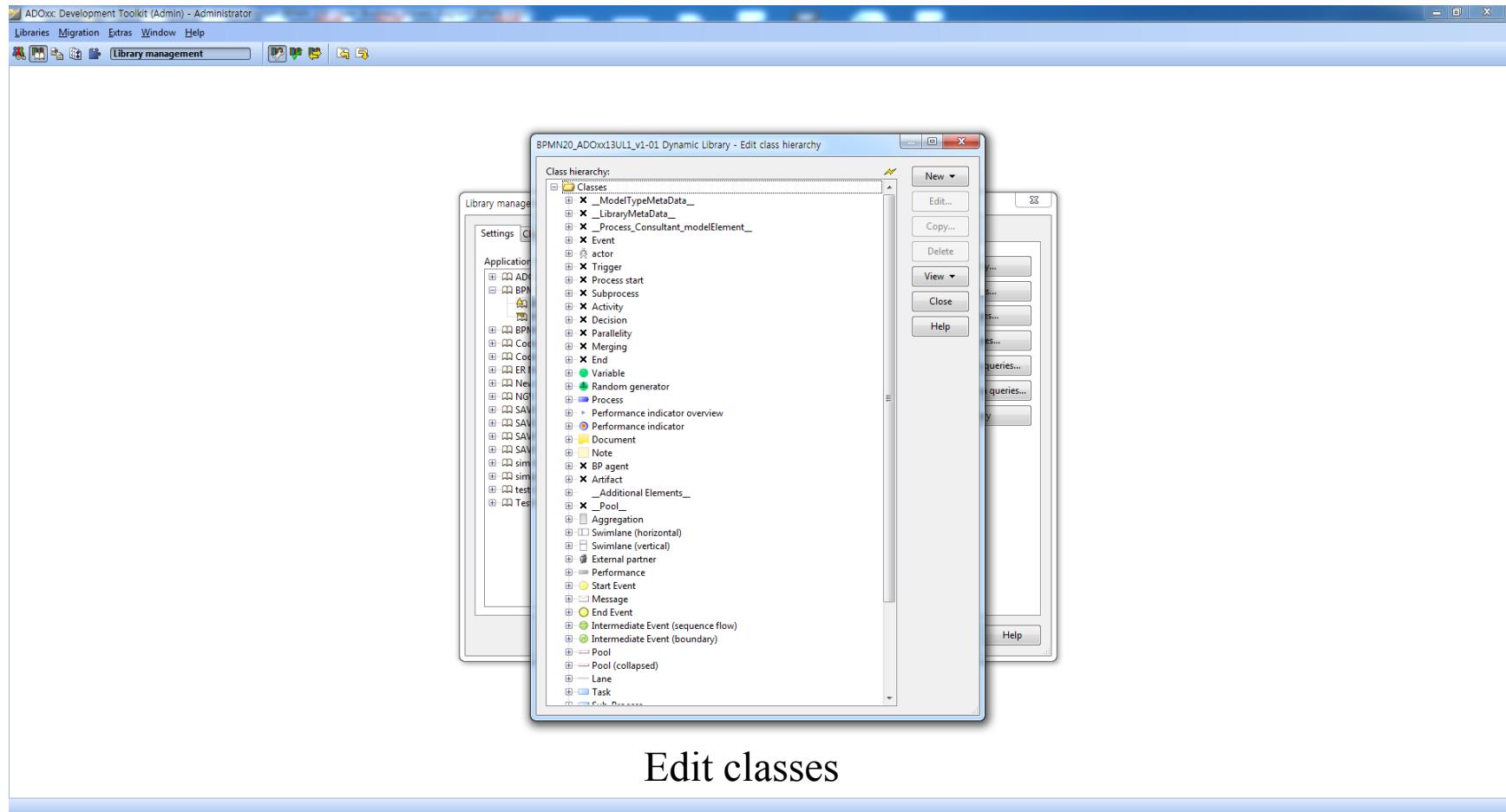
Create and Edit user

ADOxx Development Toolkit



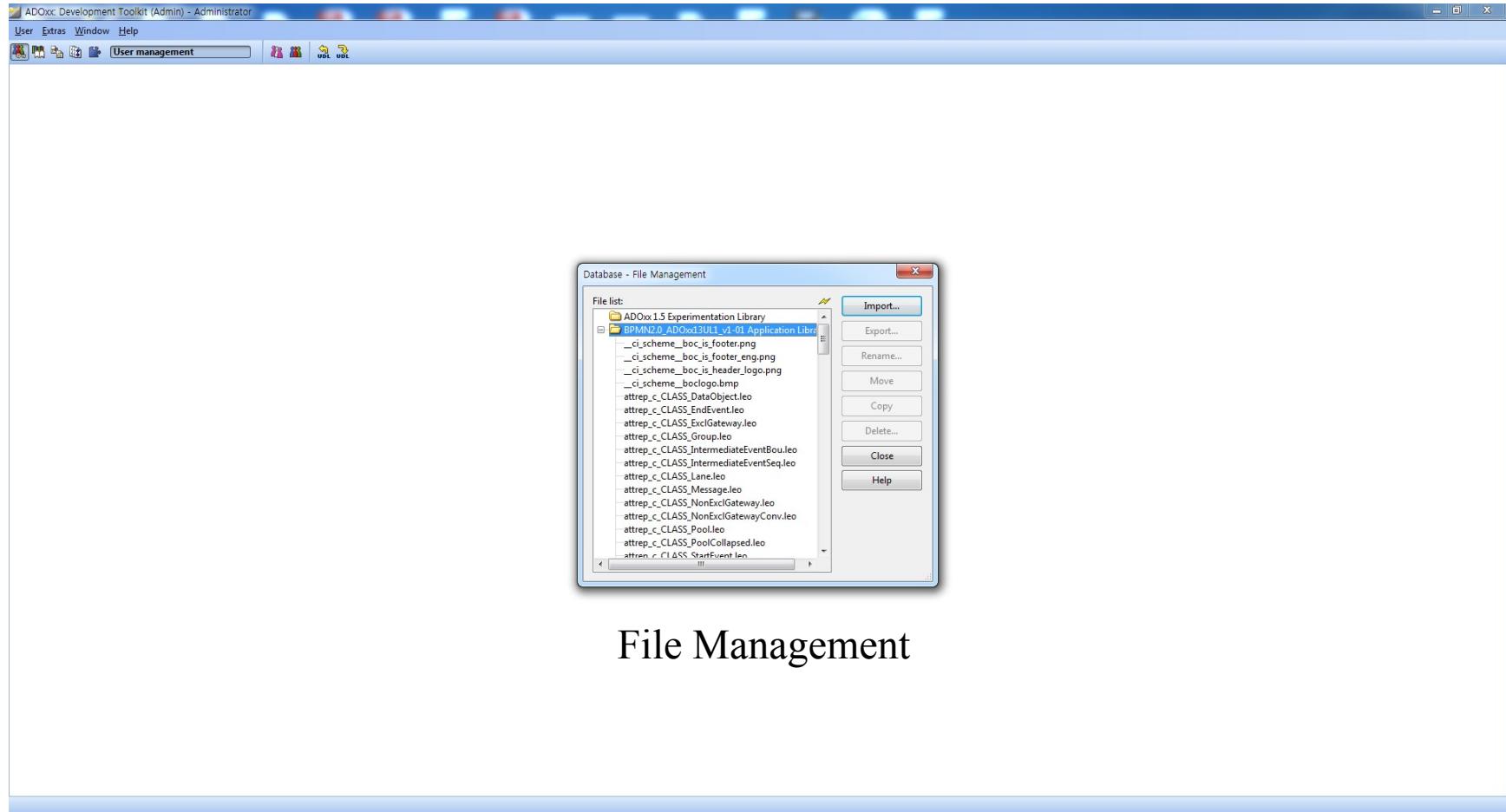
Library Management

ADOxx Development Toolkit



Edit classes

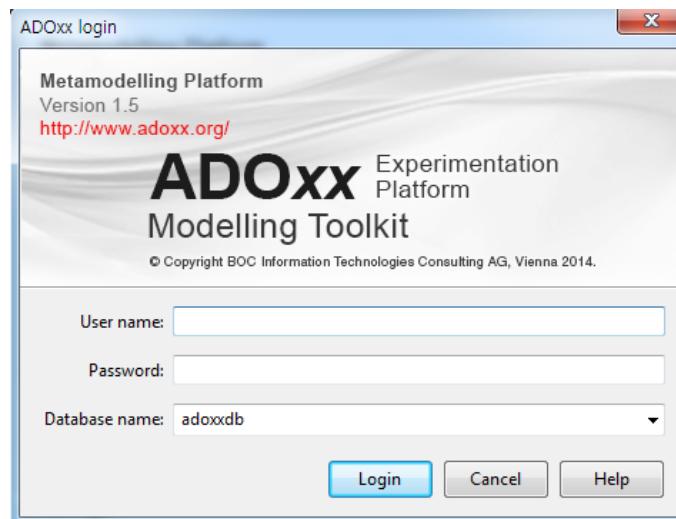
ADOxx Development Toolkit



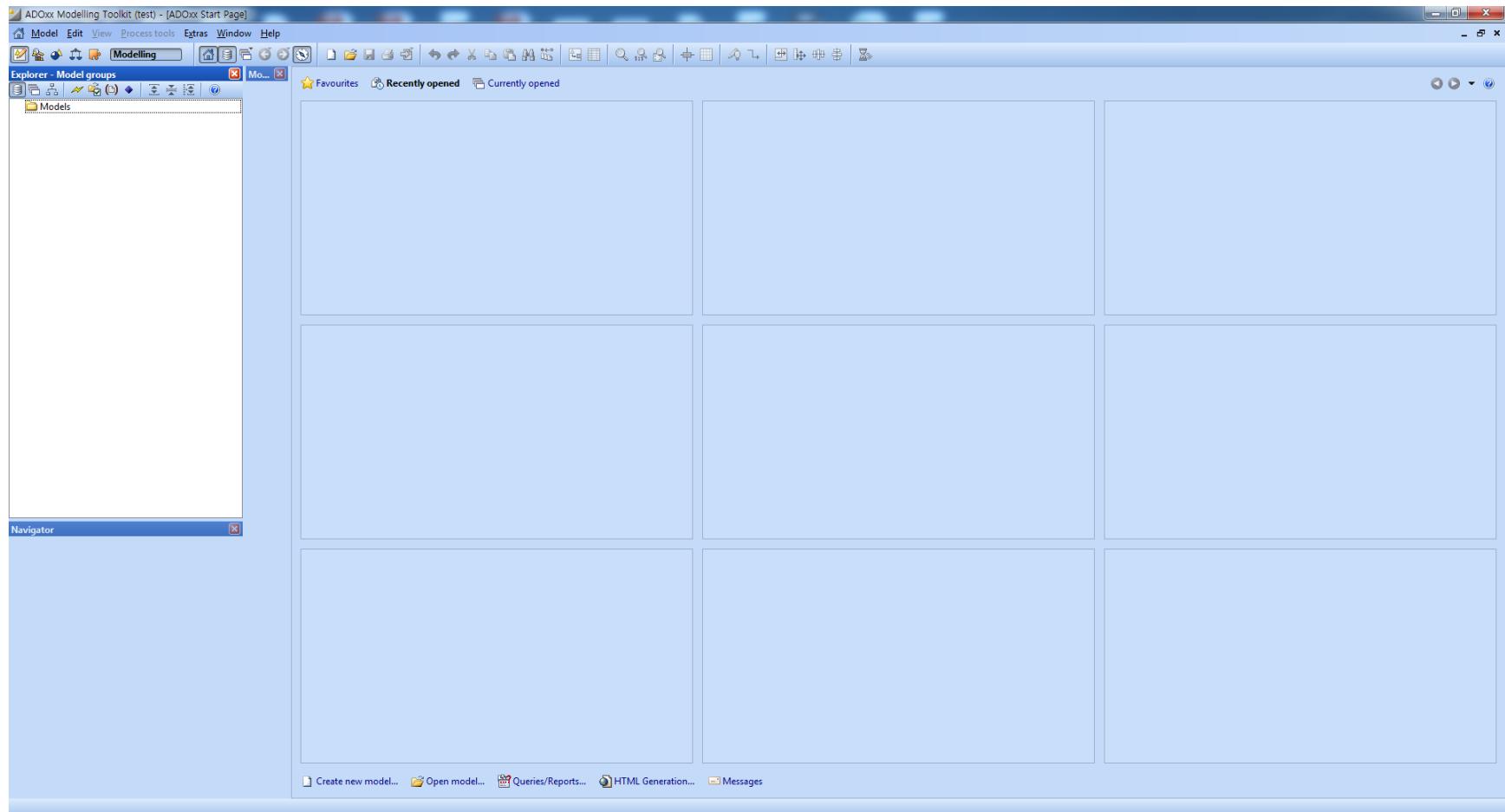
File Management

ADOxx Modeling Toolkit

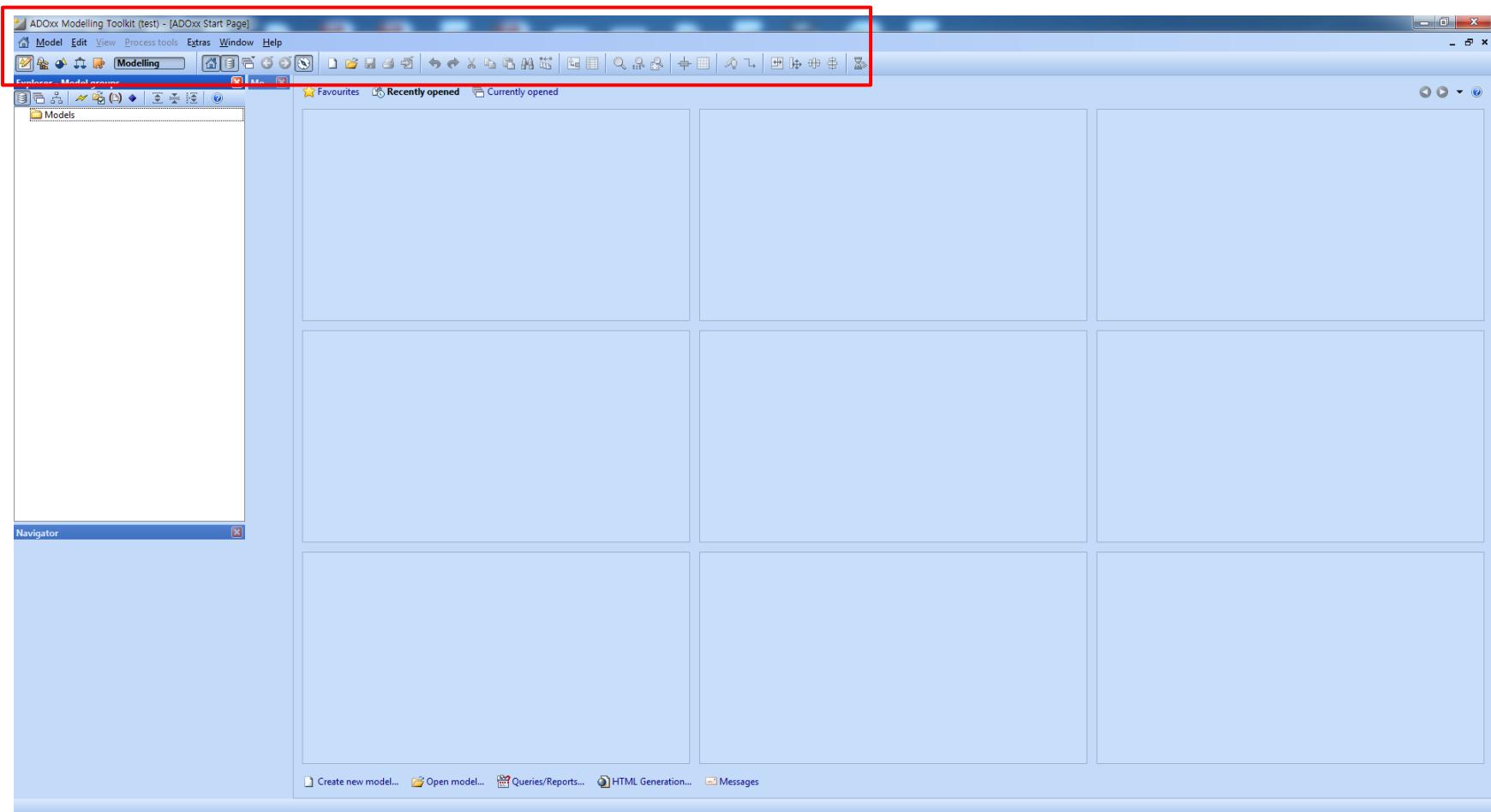
- ▶ ADOxx Modeling Toolkit
 - ▶ User name: (created user name)
 - ▶ Password: (user password)



ADOxx Modeling Toolkit

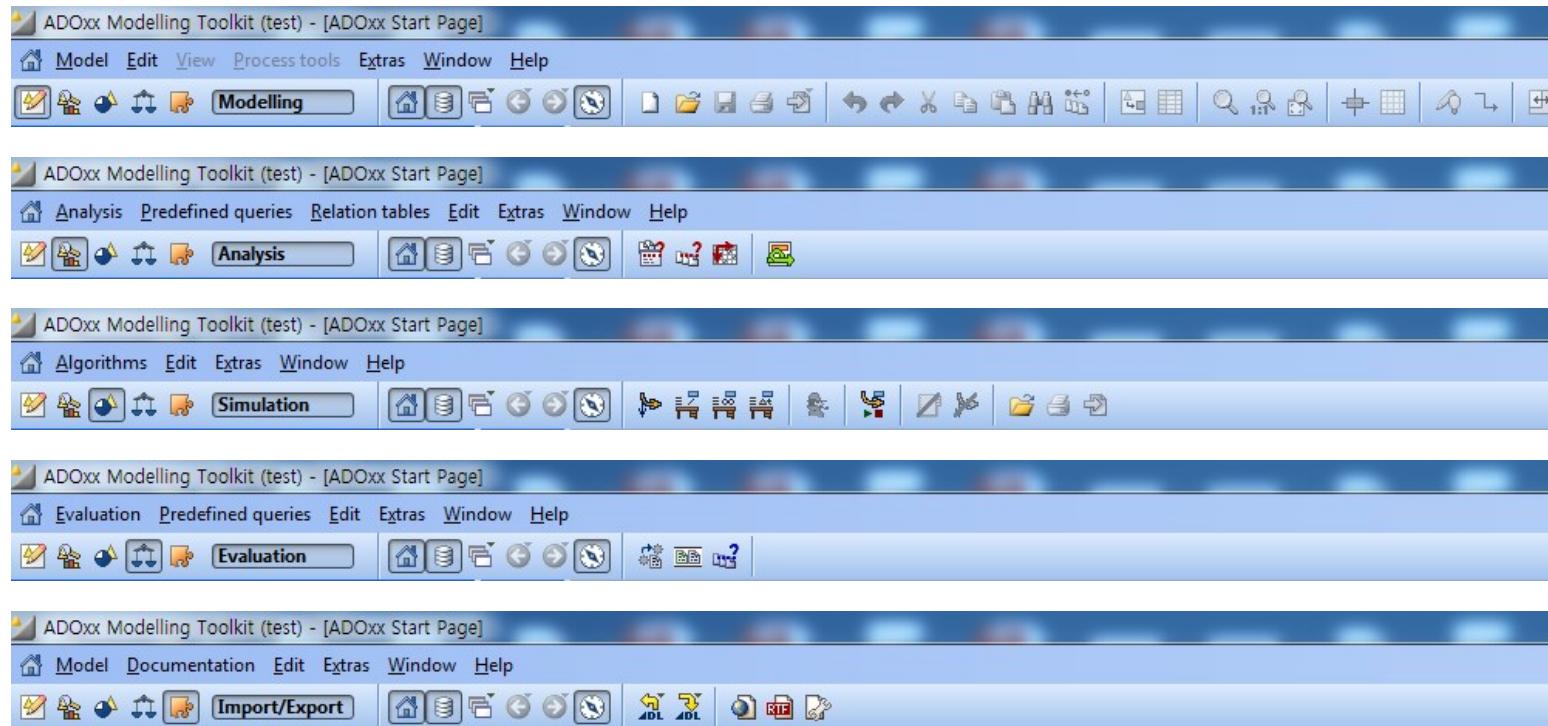


ADOxx Modeling Toolkit

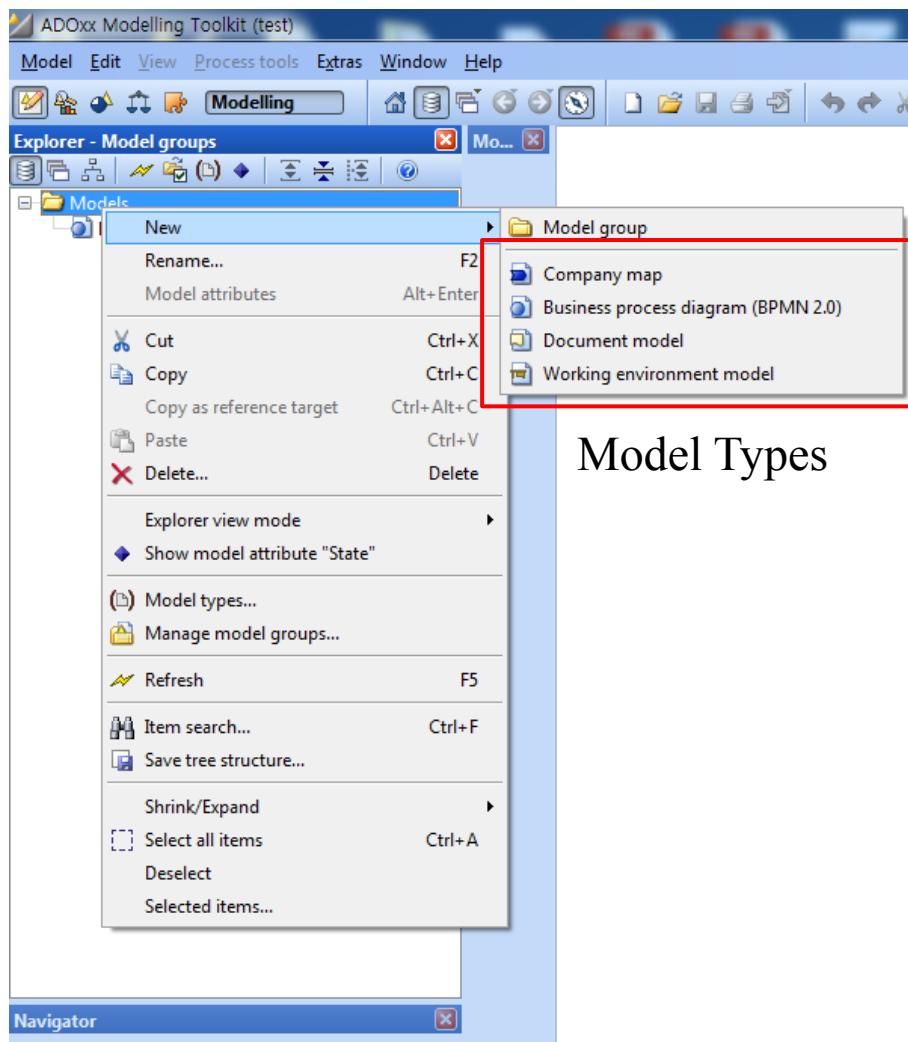


ADOxx Modeling Toolkit

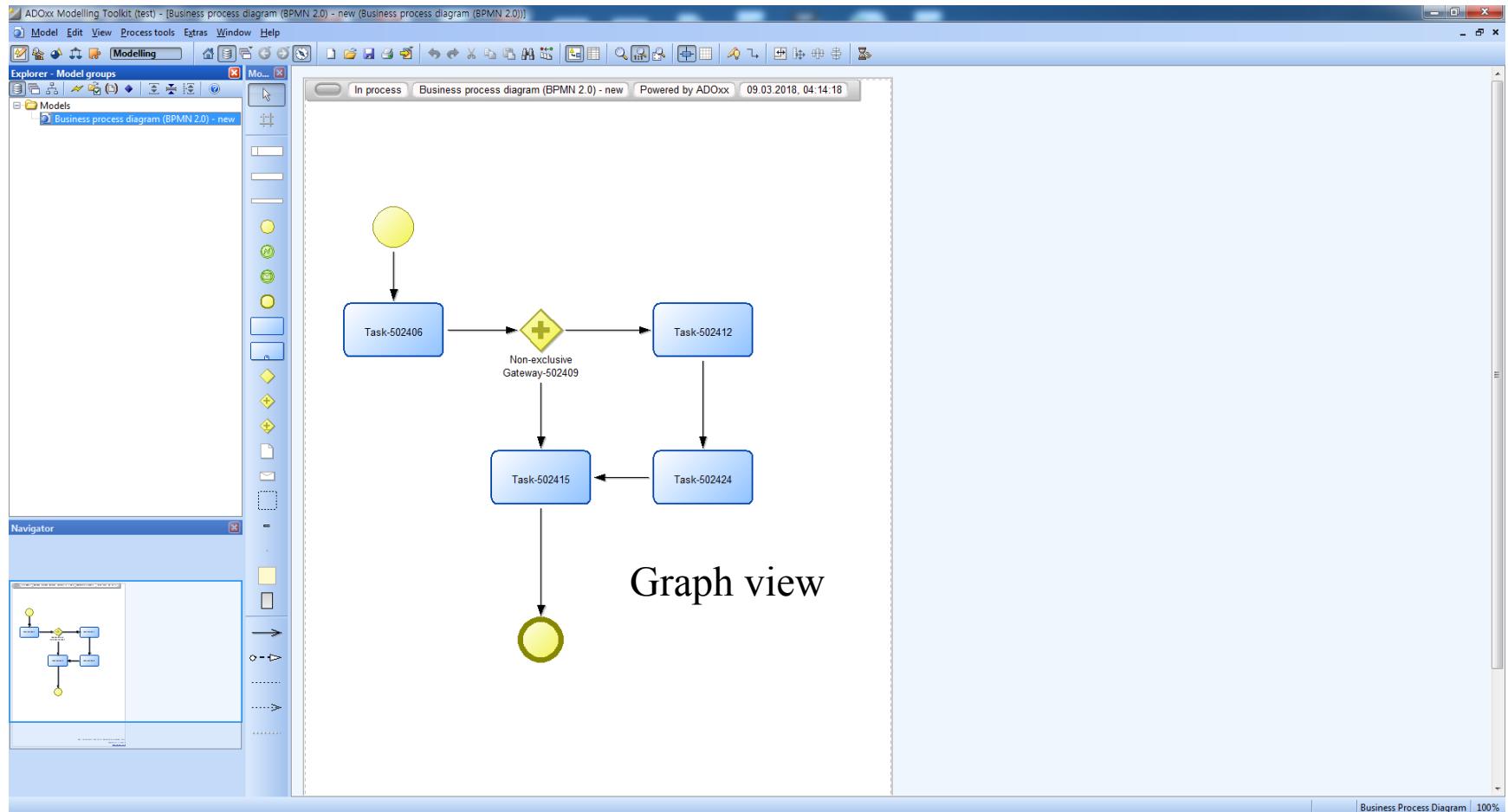
► Components



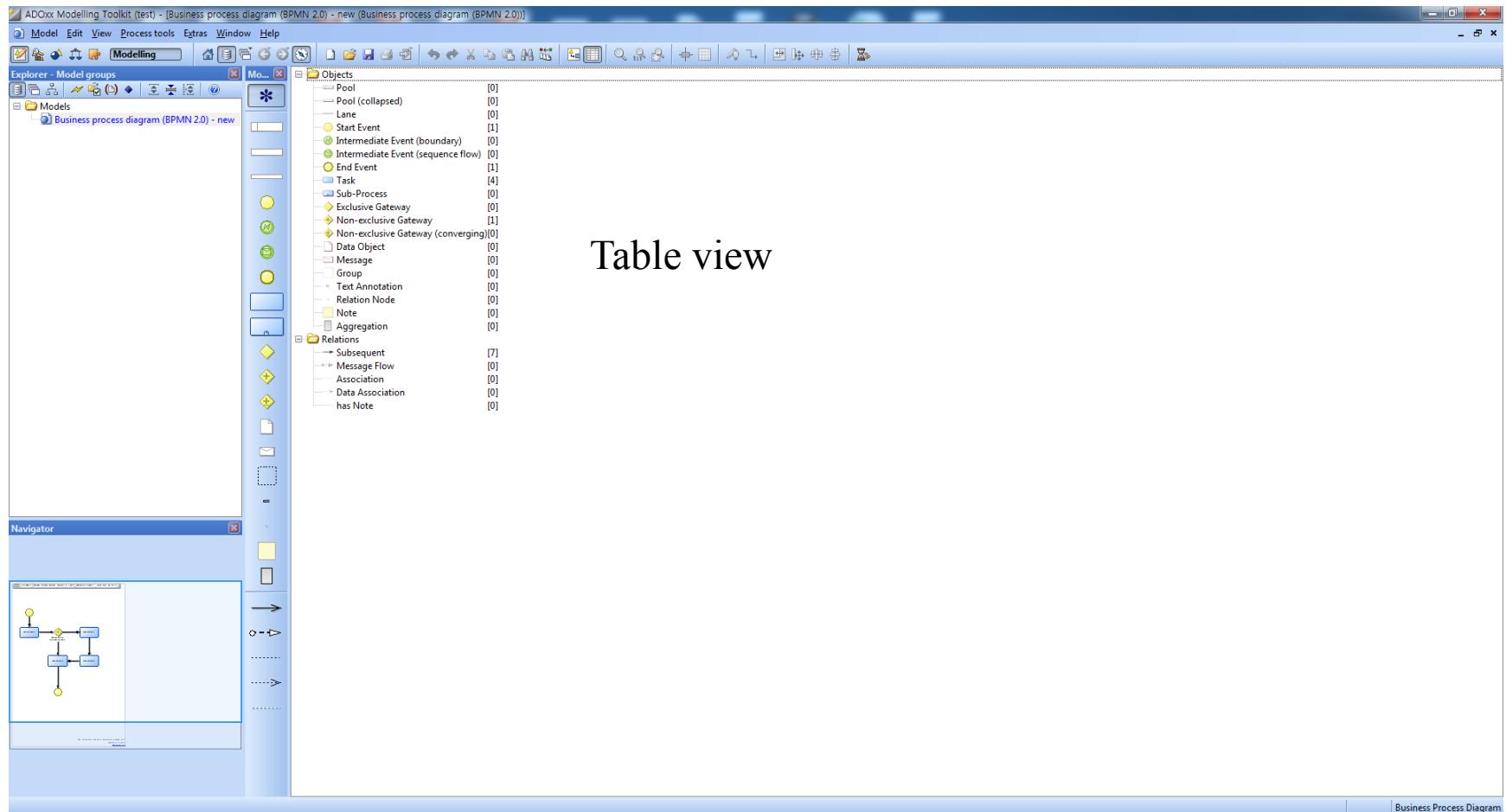
ADOxx Modeling Toolkit



ADOxx Modeling Toolkit



ADOxx Modeling Toolkit



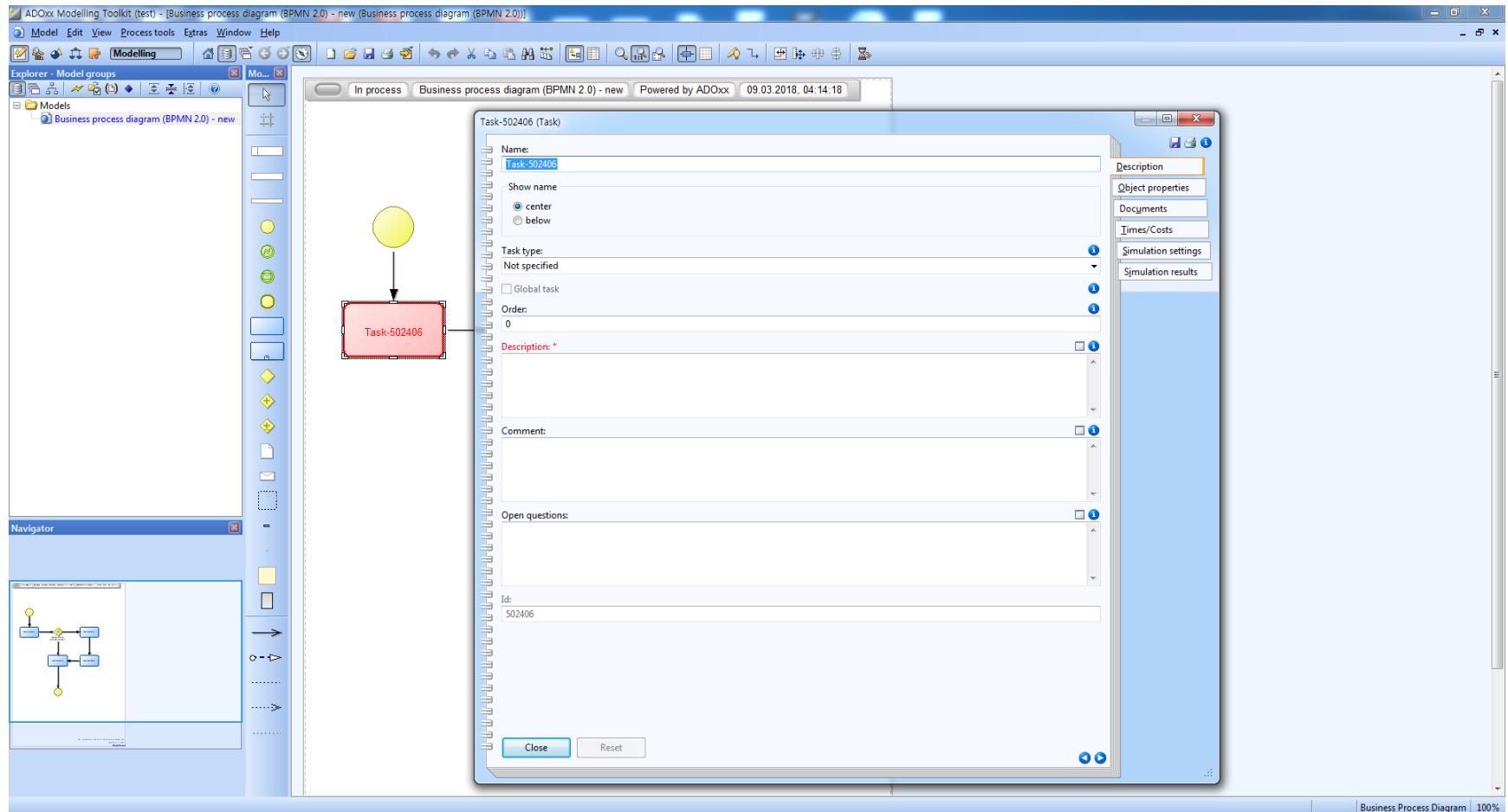
ADOxx Modeling Toolkit

The screenshot shows the ADOxx Modeling Toolkit interface. The main window features a toolbar at the top with various icons for modeling tasks. Below the toolbar is a menu bar with options like Model, Edit, View, Process tools, Extras, Window, and Help. On the left side, there's an 'Explorer - Model groups' pane showing a 'Models' folder containing a 'Business process diagram (BPMN 2.0) - new'. A central table view displays a list of tasks with columns for Name, Show name, Task type, Global task, Order, Description, Comment, Open questions, Id, Auditing, Monitoring, For compensati..., Loop type, Loop condition ..., and Sequential exec. The table contains four rows of data. At the bottom left, a 'Navigator' pane shows a small thumbnail of the BPMN diagram. The bottom right corner of the main window is labeled 'Business Process Diagram'.

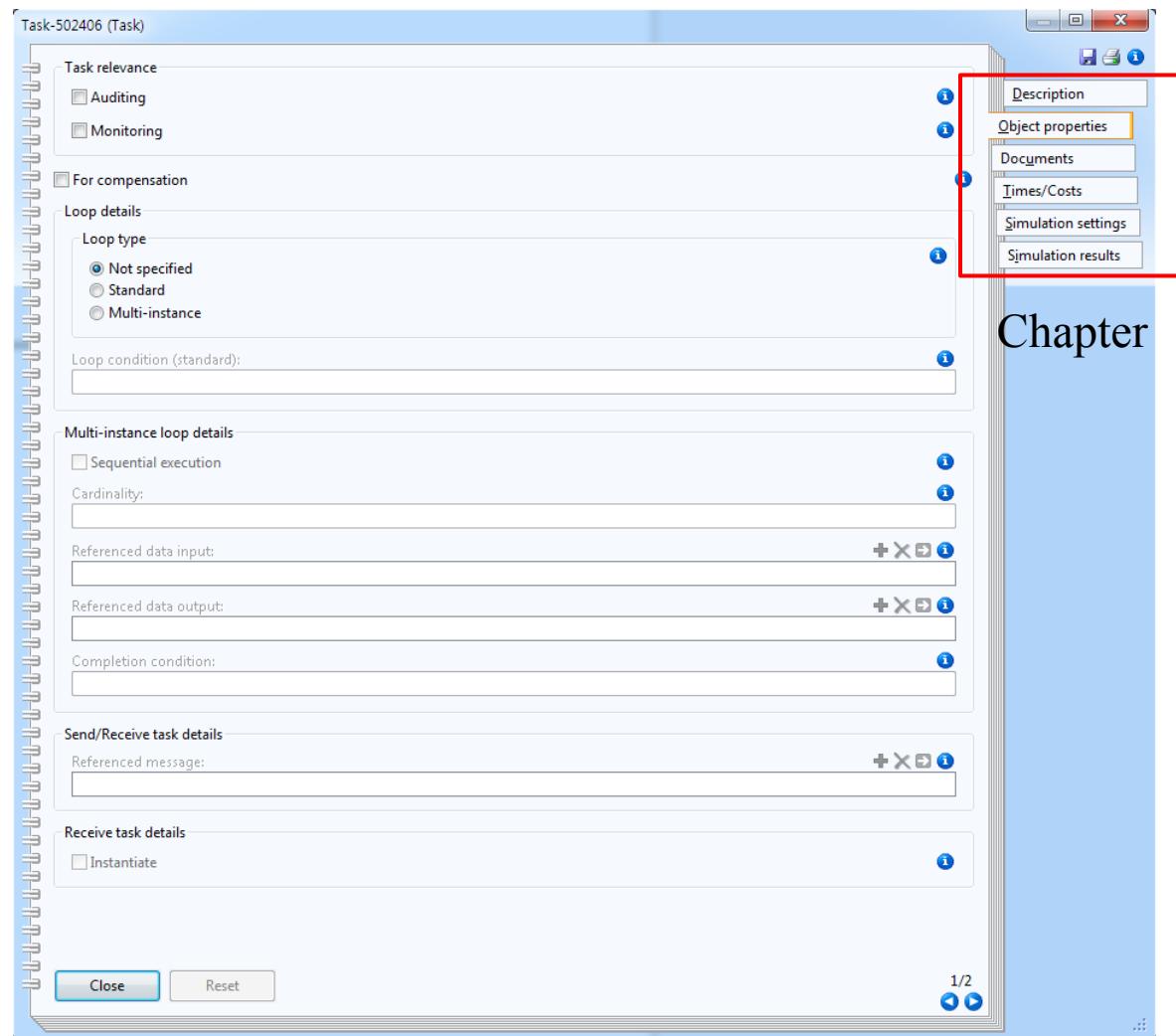
	Name	Show name	Task type	Global task	Order	Description	Comment	Open questions	Id (-)	Auditing	Monitoring	For compensati...	Loop type	Loop condition ...	Sequential exec
	Task-502406	center	Not specified	No	0				502406	No	No	No	Not specified	No	No
	Task-502412	center	Not specified	No	0				502412	No	No	No	Not specified	No	No
	Task-502415	center	Not specified	No	0				502415	No	No	No	Not specified	No	No
	Task-502424	center	Not specified	No	0				502424	No	No	No	Not specified	No	No

Table view for one class

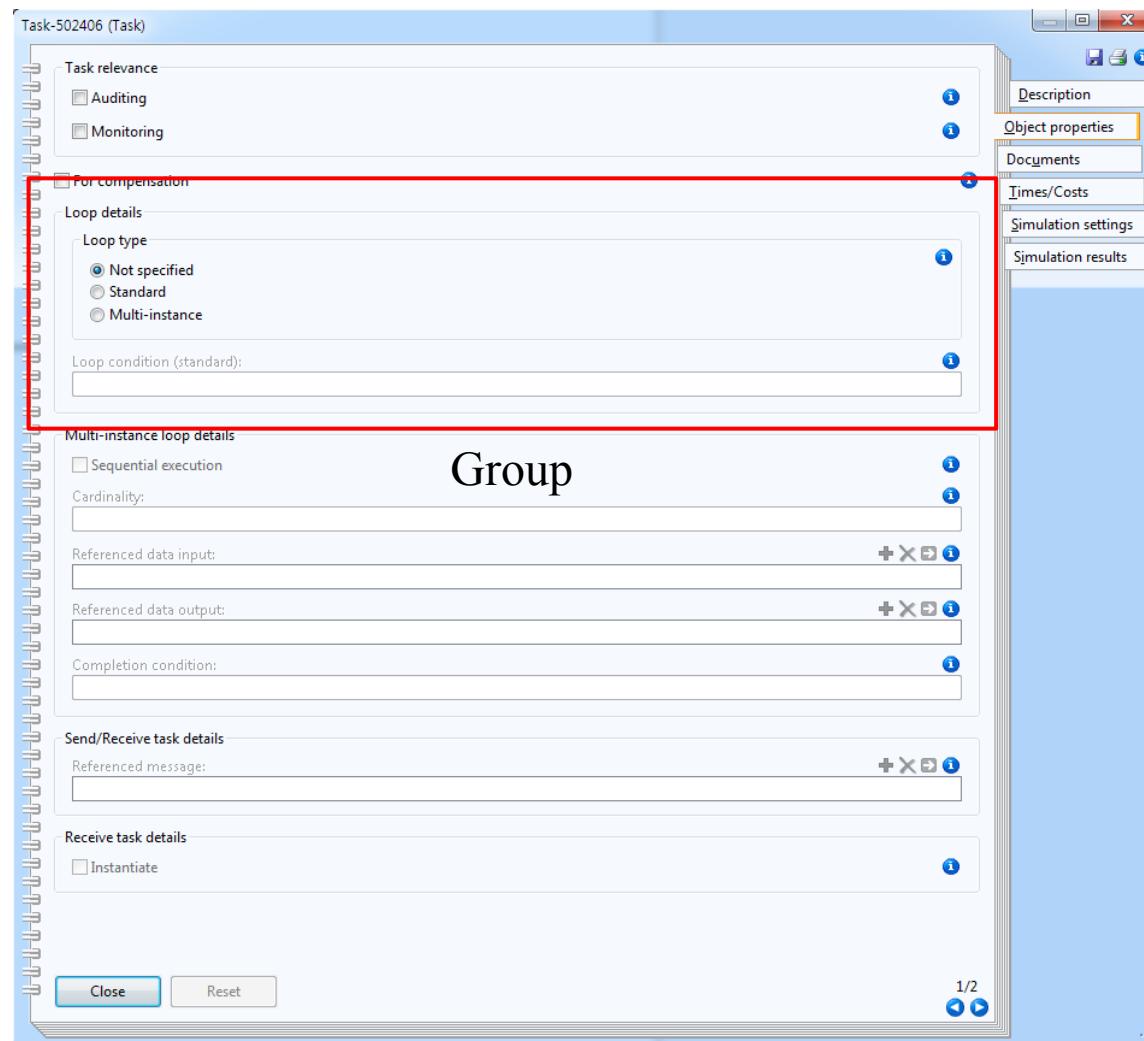
ADOxx Modeling Toolkit



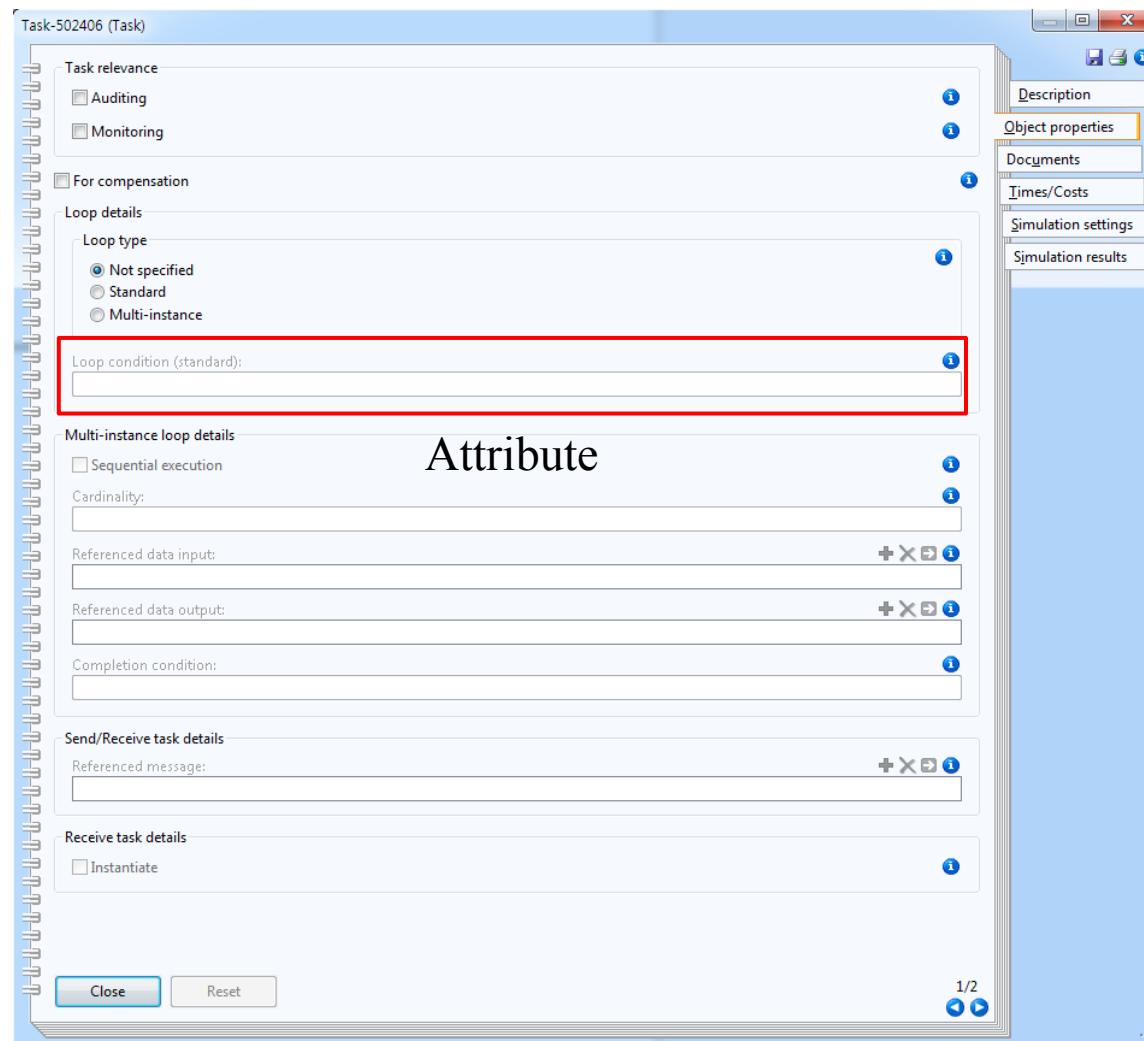
ADOxx Modeling Toolkit



ADOxx Modeling Toolkit



ADOxx Modeling Toolkit

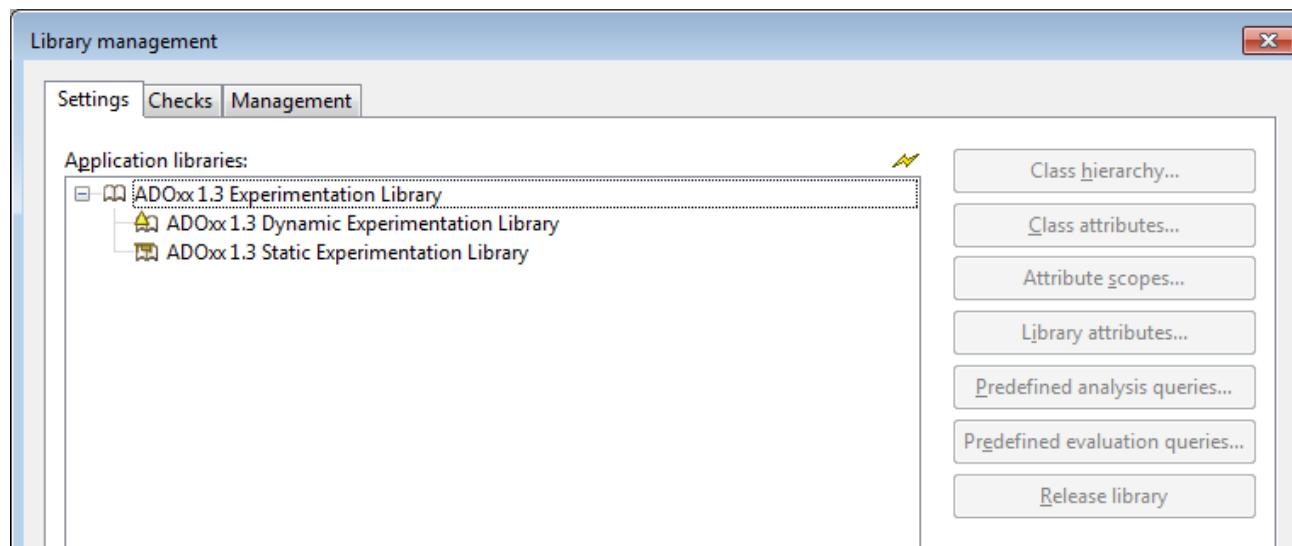


Attribute

Modeling Language Definition

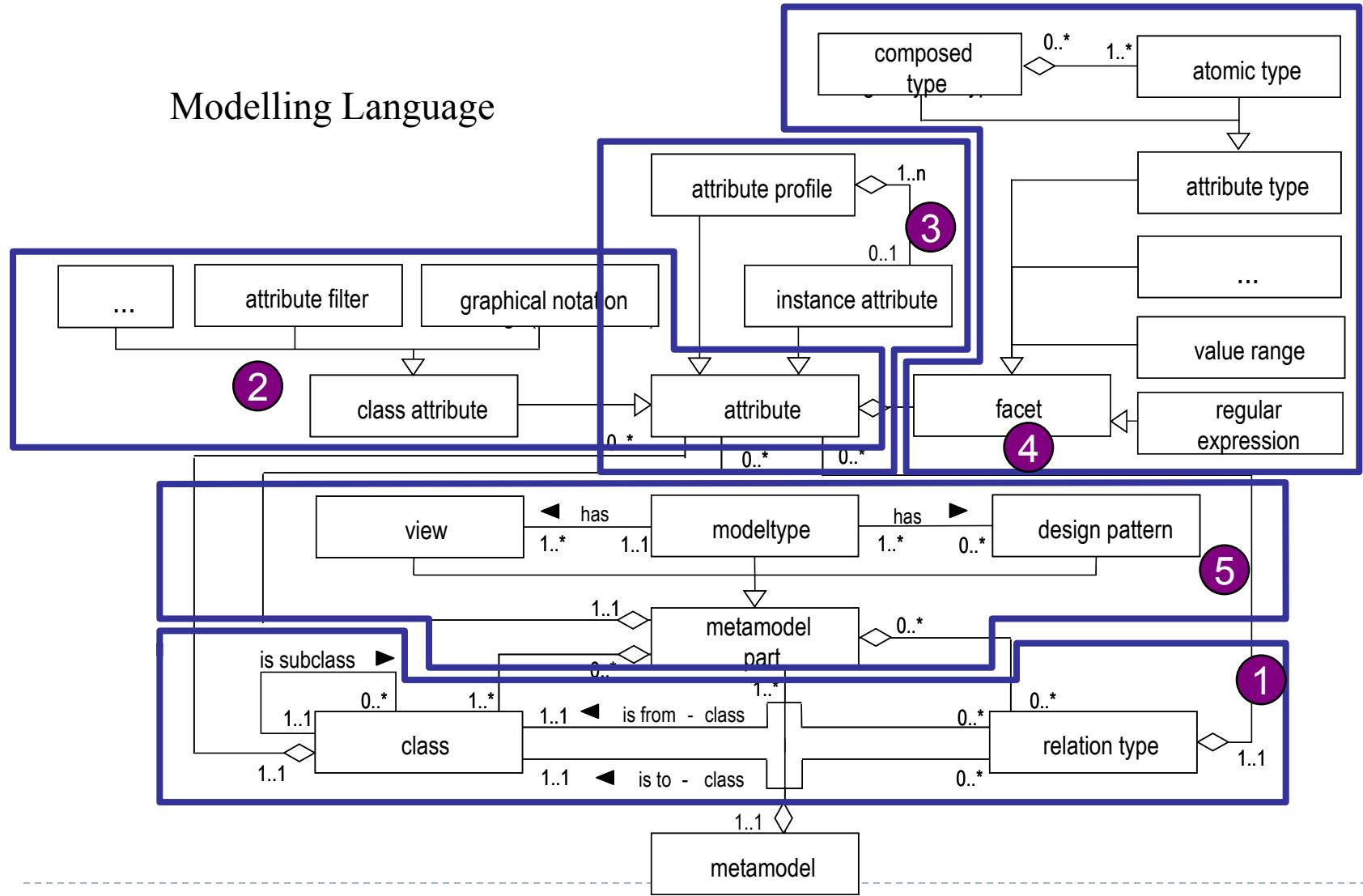
Modeling Language

- ▶ Library
 - ▶ Dynamic : Graph-based environment
 - ▶ Static : Tree-based environment



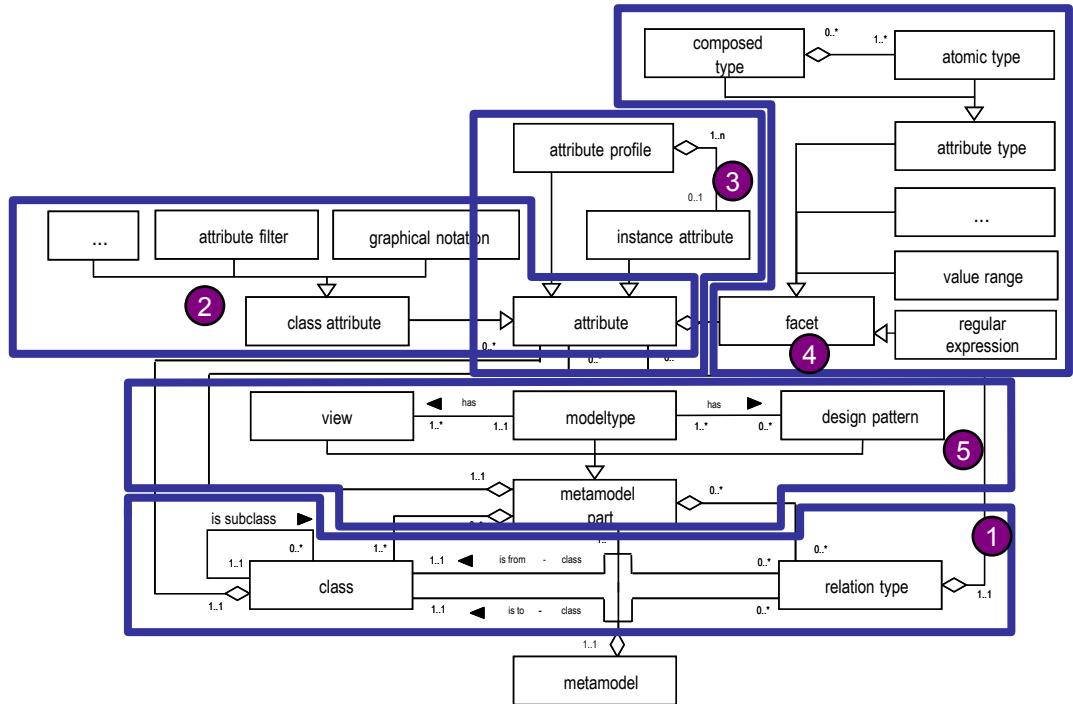
Modeling Language

Modelling Language



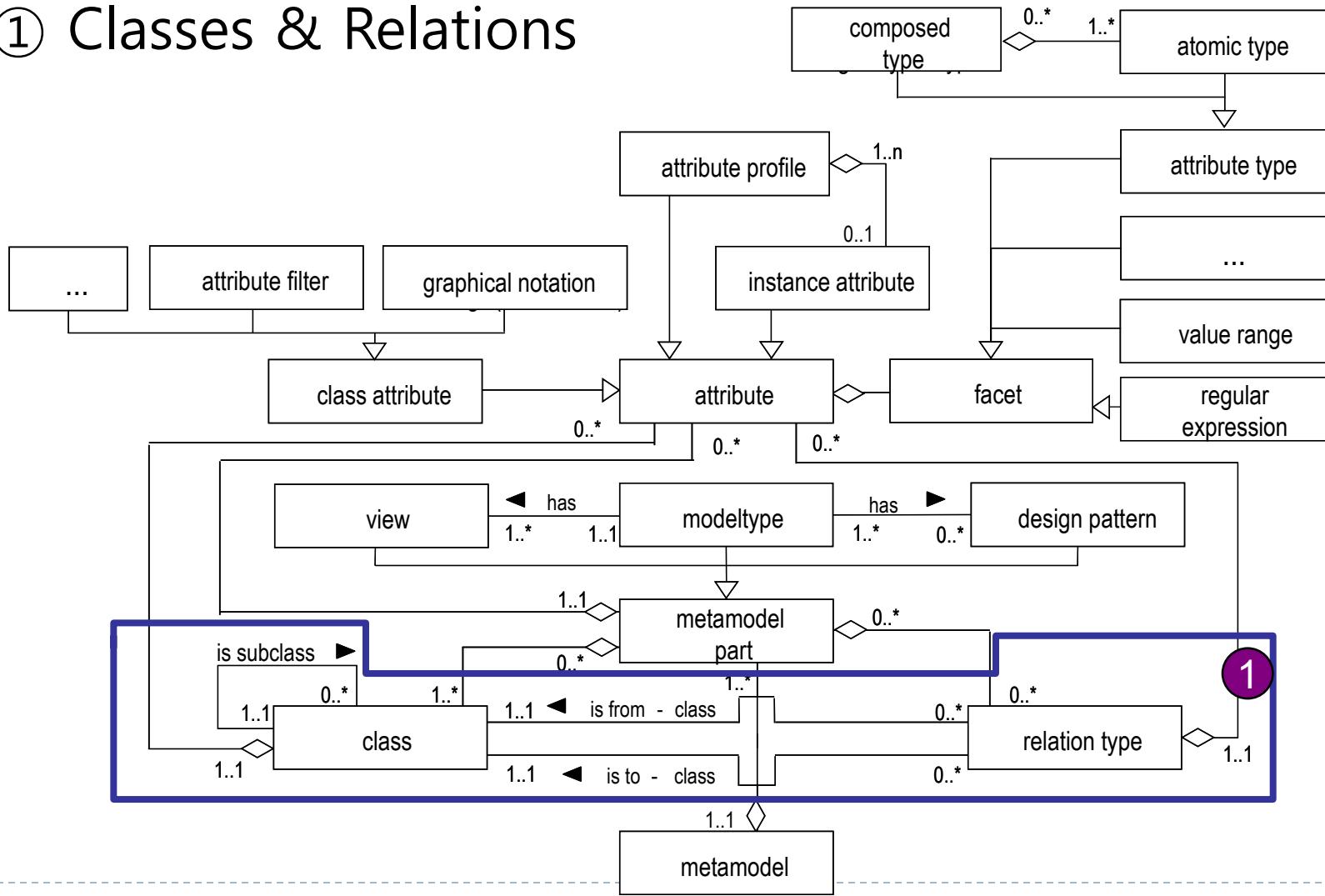
Modeling Language

- ① Classes & Relations
- ② Class Attribute & Attribute
- ③ Special Class Attribute & Attribute
- ④ Attribute Facets
- ⑤ Model Types



Modeling Language

① Classes & Relations

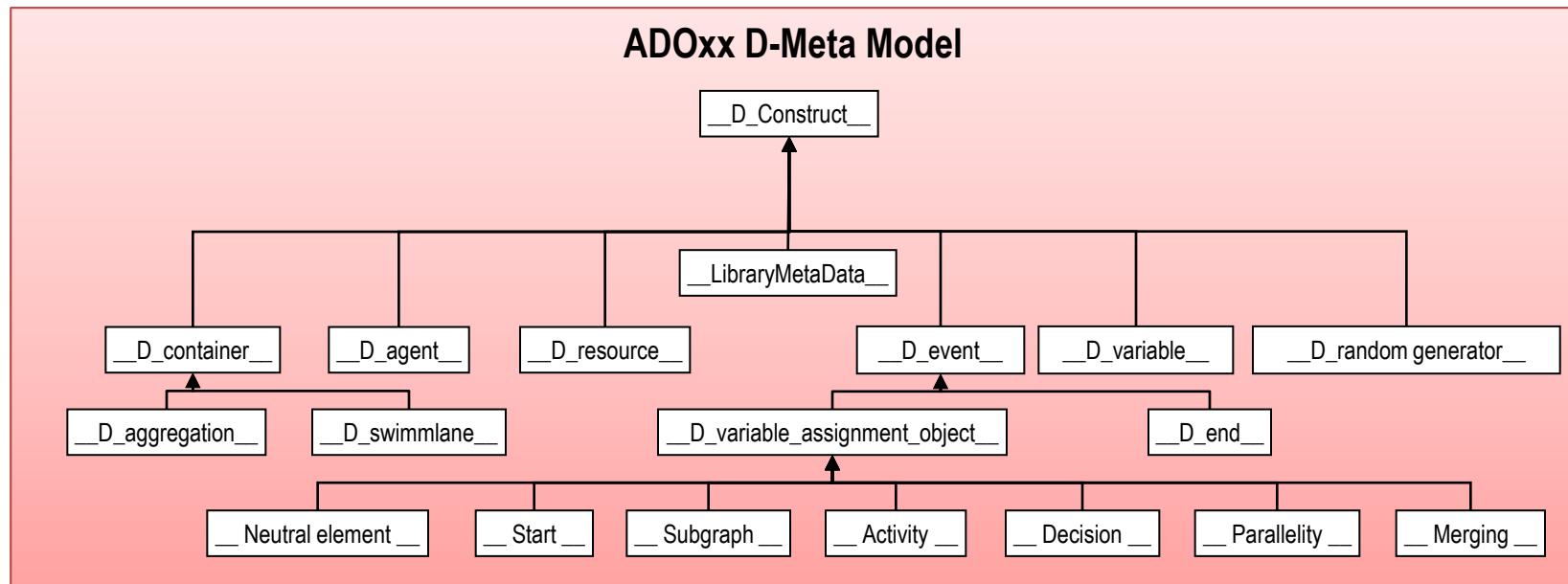


Modeling Language

- ▶ Class
 - ▶ Pre-defined Abstract Class
 - ▶ Provide by ADOxx
 - ▶ Nomenclature: __Class Name__
 - ▶ Abstract Class
 - ▶ Self-defined abstract class
 - ▶ Nomenclature: _Class Name_
 - ▶ Class
 - ▶ Self-defined concrete class
 - ▶ Nomenclature: Class Name

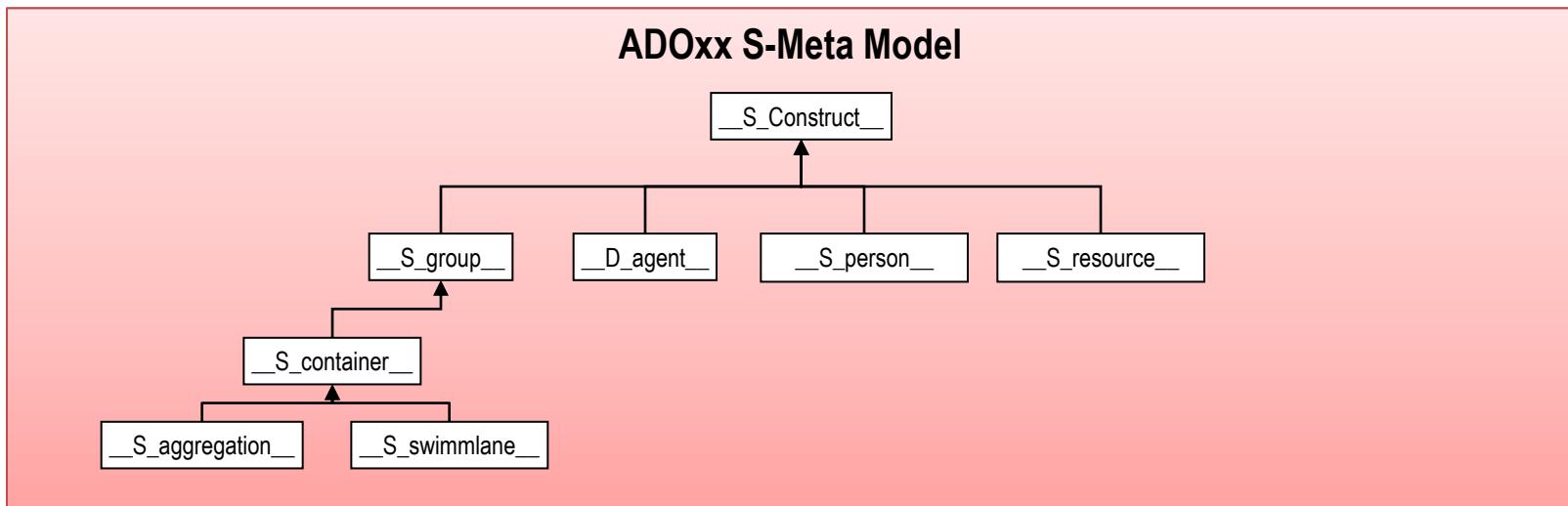
Modeling Language

► ADOxx D-Meta Model



Modeling Language

► ADOxx S-Meta Model



Modeling Language

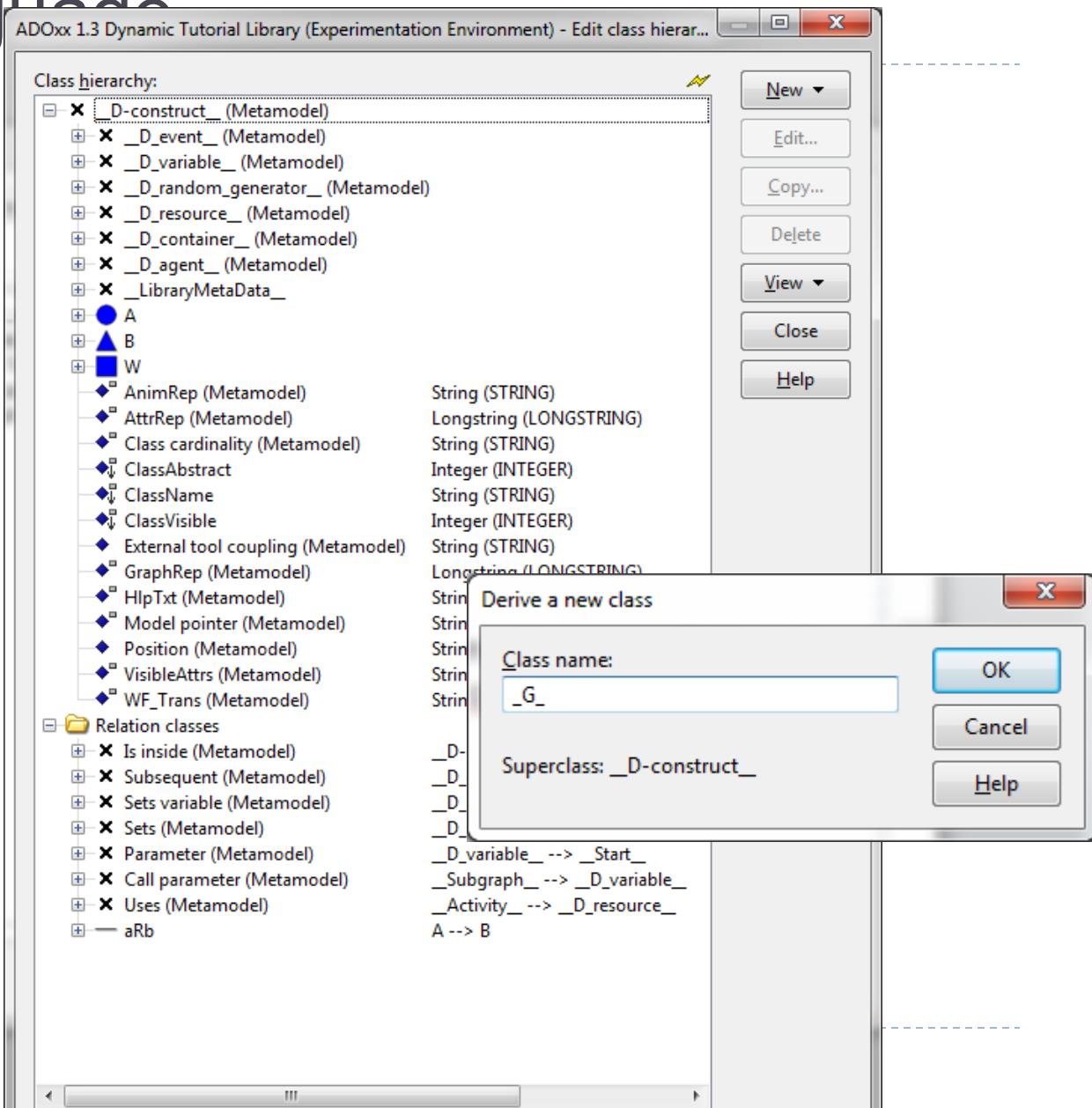
► Class definition

The screenshot shows two windows from the ADOxx 1.3 Dynamic Tutorial Library:

- Library management window:** Shows "ADOxx 1.3 Dynamic Tutorial Library (Experimentation Environment)" selected in the "Application libraries" list.
- Class hierarchy dialog:** Displays the class hierarchy and relations. The tree view includes:
 - Metamodel classes:** D-construct_ (Metamodel), _D_event_ (Metamodel), _D_variable_ (Metamodel), _D_random_generator_ (Metamodel), _D_resource_ (Metamodel), _D_container_ (Metamodel), _D_agent_ (Metamodel), _LibraryMetaData_.
 - Elements:** A, B, W.
 - Attributes:** AnimRep (Metamodel), AttrRep (Metamodel), Class cardinality (Metamodel), ClassAbstract, ClassName, ClassVisible, External tool coupling (Metamodel), GraphRep (Metamodel), HlpTxt (Metamodel), Model pointer (Metamodel), Position (Metamodel), VisibleAttrs (Metamodel), WF_Trans (Metamodel).
 - Relations:** Is inside (Metamodel), Subsequent (Metamodel), Sets variable (Metamodel), Sets (Metamodel), Parameter (Metamodel), Call parameter (Metamodel), Uses (Metamodel), aRb.
 - Type definitions:** String (STRING), Longstring (LONGSTRING), Integer (INTEGER), String (STRING), Integer (INTEGER), String (STRING), Longstring (LONGSTRING), String (STRING), String (STRING), String (STRING), String (STRING), String (STRING), String (STRING), String (STRING).

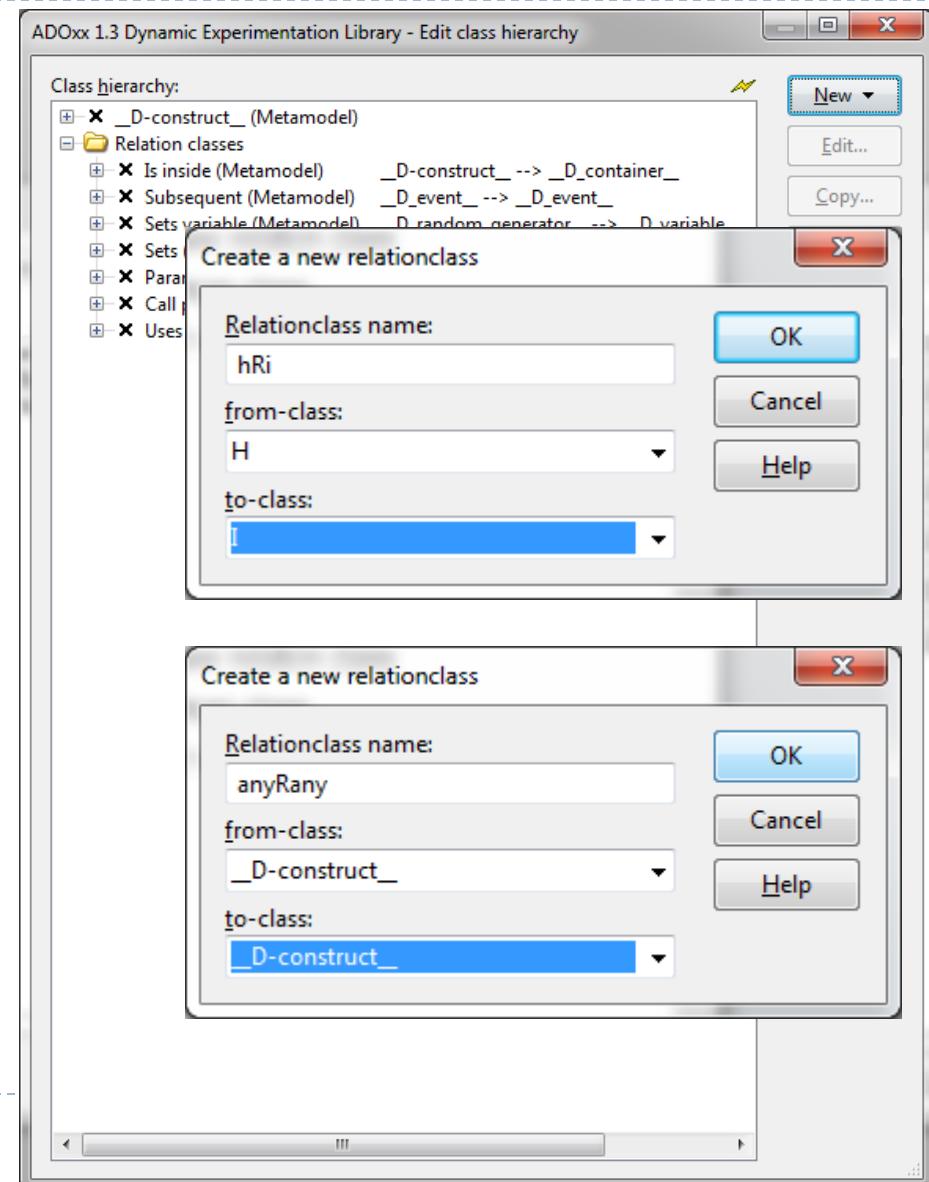
Modeling Languages

▶ Class definition



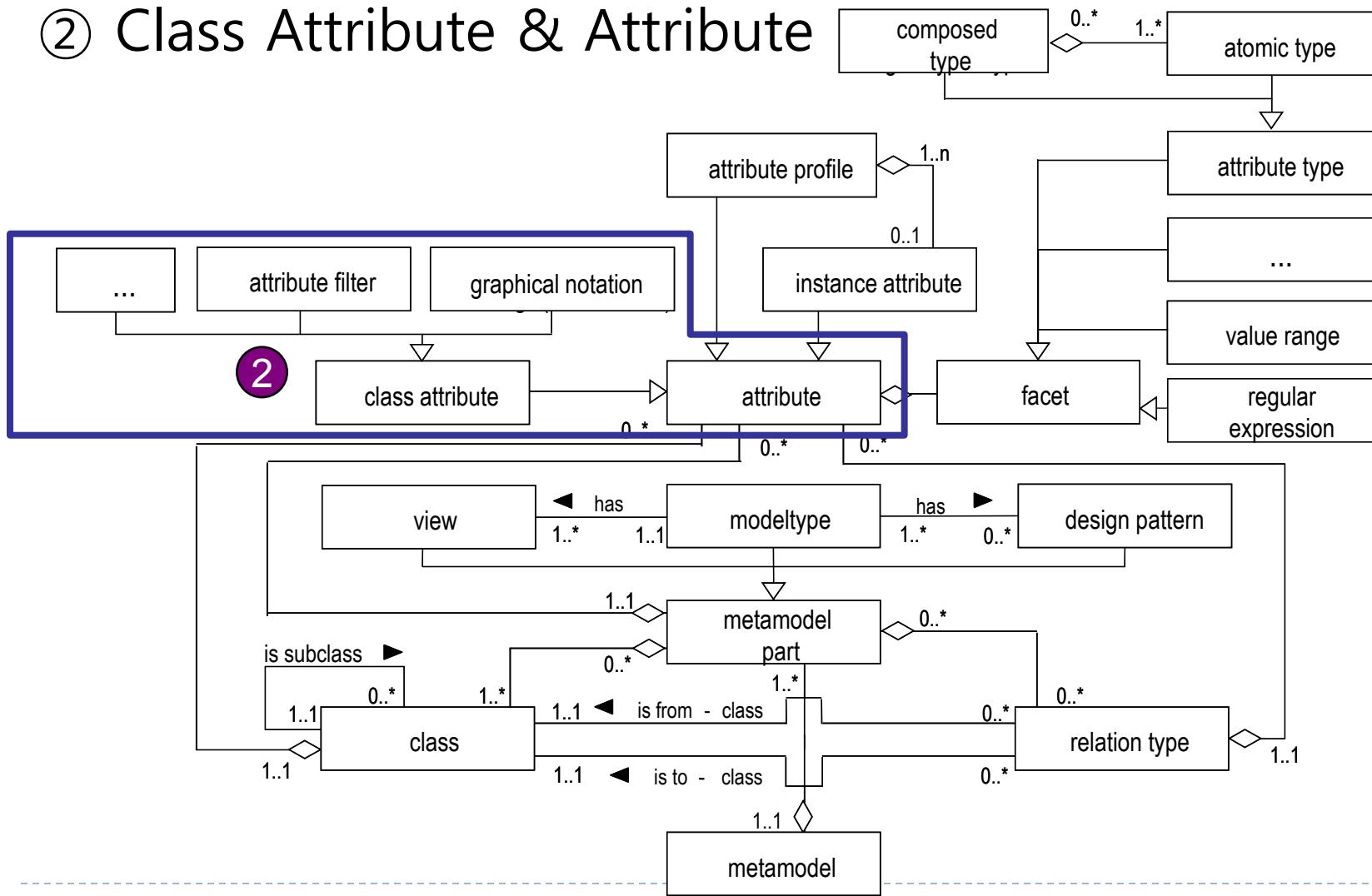
Modeling Language

► Relation Class Definition



Modeling Language

② Class Attribute & Attribute



Modeling Language

► Attributes

- Type
 - INTEGER integer
 - DOUBLE floating number
 - STRING string – max. 3699 symbols
 - LONGSTRING string – max. 32000 symbols
 - TIME time
 - DATE date
 - DATETIME date and time
 - ENUMERATION enumeration for selecting a characteristic
 - ENUMERATIONLIST enumeration for selecting one or several characteristics
 - PROGRAMCALL enumeration for selecting a program
 - RECORD a table of attributes
 - EXPRESSION a formula
 - INTERREF reference on a model or an instance
 - ATTRPROFREF a preset set of attribute values

Modeling Language

The screenshot shows a modeling language interface with a tree view of a class hierarchy on the left and a context menu and dialog box on the right.

Class Hierarchy Tree:

- My First Class
 - AnimRep (Metamodel) String (STRING)
 - AttrRep (Metamodel) Longstring (LONGSTRING)
 - Class cardinality (Metamodel) String (STRING)
 - ClassAbstract Integer (INTEGER)
 - ClassName String (STRING)
 - ClassVisible Integer (INTEGER)
 - External tool coupling (Metamodel) String (STRING)
 - GraphRep (Metamodel) Longstring (LONGSTRING)
 - HlpTxt (Metamodel) String (STRING)
 - Model pointer (Metamodel) String (STRING)
 - Position (Metamodel) String (STRING)
 - Selection (Metamodel) Expression (EXPRESSION)
 - VisibleAttrs (Metamodel) String (STRING)
 - WF_Trans (Metamodel) String (STRING)
 - AnimRep (Metamodel) String (STRING)
 - AttrRep (Metamodel) Longstring (LONGSTRING)
 - Class cardinality (Metamodel) String (STRING)
 - ClassAbstract Integer (INTEGER)
 - ClassName String (STRING)
 - ClassVisible Integer (INTEGER)
 - External tool coupling (Metamodel) String (STRING)
 - GraphRep (Metamodel) Longstring (LONGSTRING)
 - HlpTxt (Metamodel) String (STRING)
 - Model pointer (Metamodel) String (STRING)
 - Position (Metamodel) String (STRING)
 - Selection (Metamodel) Expression (EXPRESSION)
 - VisibleAttrs (Metamodel) String (STRING)
 - WF_Trans (Metamodel) String (STRING)
- __D_container__ (Metamodel)

Context Menu (Open at My First Class):

- New class...
- New attribute...** (highlighted)
- New class attribute...
- Copy...
- Delete

Add new attribute Dialog:

Attribute name:

Type:

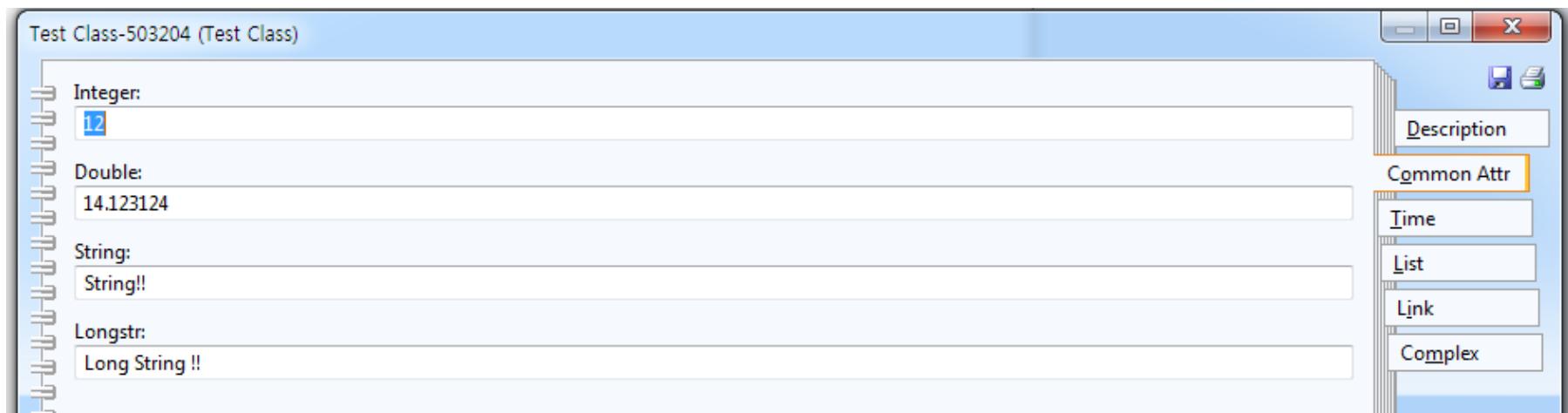
Buttons: OK, Edit, Cancel

Attribute profile reference (ATTRIBUTEPROFILEREFERENCE) dropdown options:

- Date
- Datetime
- Enumeration (ENUMERATION)
- Enumeration list (ENUMERATIONLIST)
- Expression (EXPRESSION)
- Floating number (DOUBLE)
- Integer (INTEGER)
- Intermodel reference (INTERREF)
- Longstring (LONGSTRING)
- Programcall (PROGRAMCALL)
- String (STRING)
- Table (RECORD)
- Time (TIME)

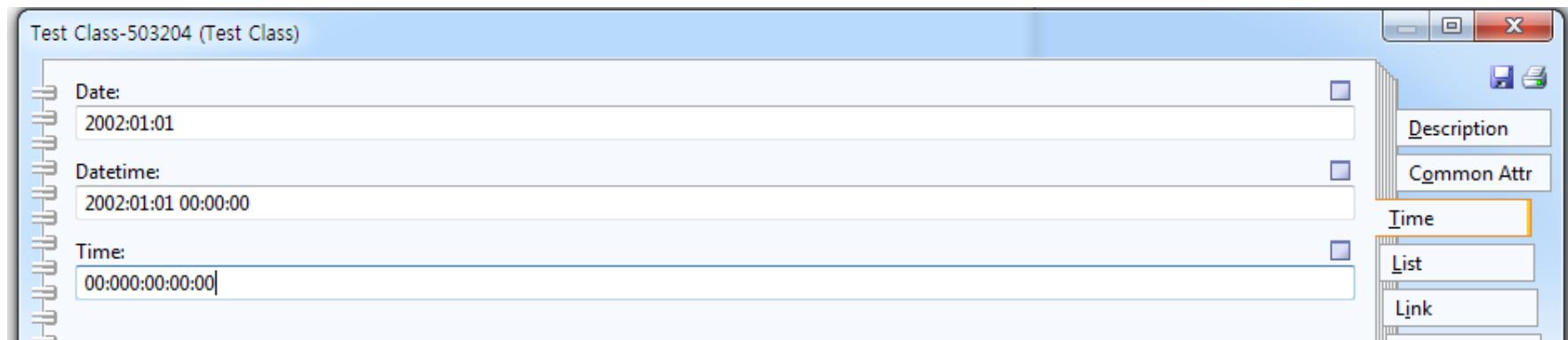
Modeling Language

- ▶ Attributes
 - ▶ Common Type
 - ▶ INTEGER, DOUBLE, STRING, LONGSTRING



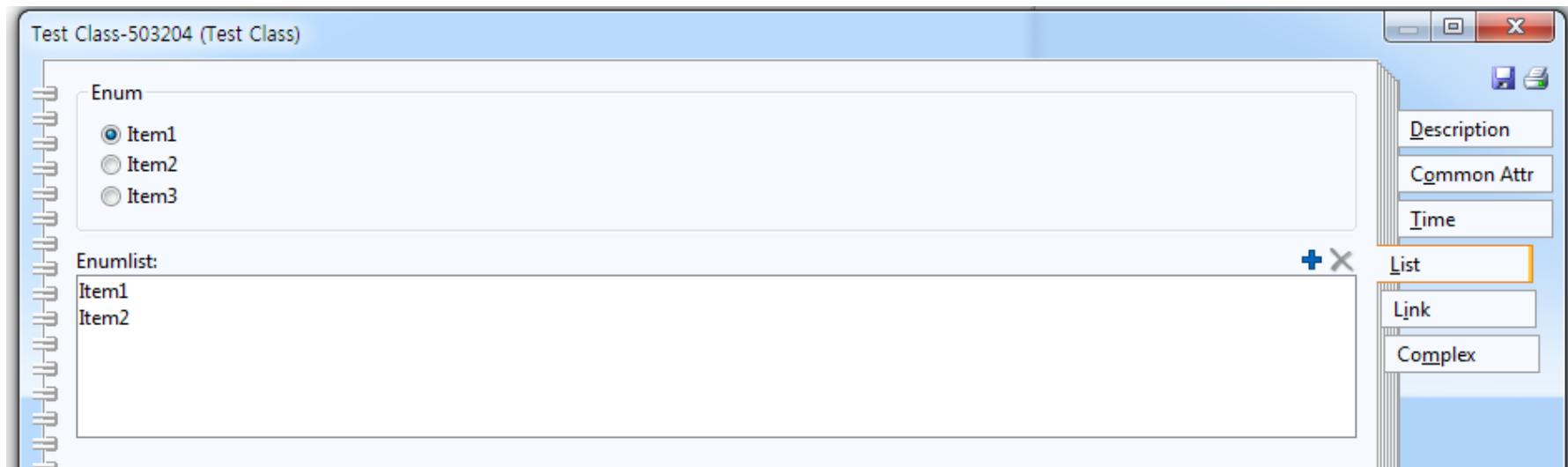
Modeling Language

- ▶ Attributes
 - ▶ Time Type
 - ▶ TIME, DATE, DATETIME



Modeling Language

- ▶ Attributes
 - ▶ List Type
 - ▶ ENUMERATION, ENUMERATIONLIST



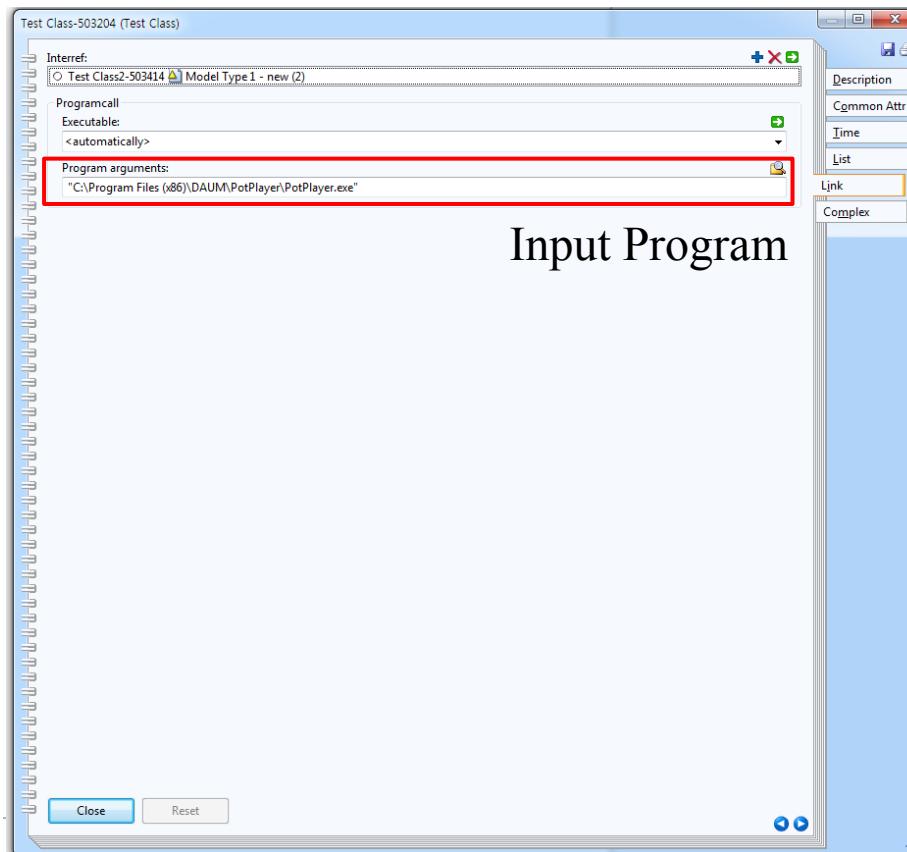
Modeling Language

- ▶ Attributes
 - ▶ Link Type
 - ▶ PROGRAMCALL, INTERREF



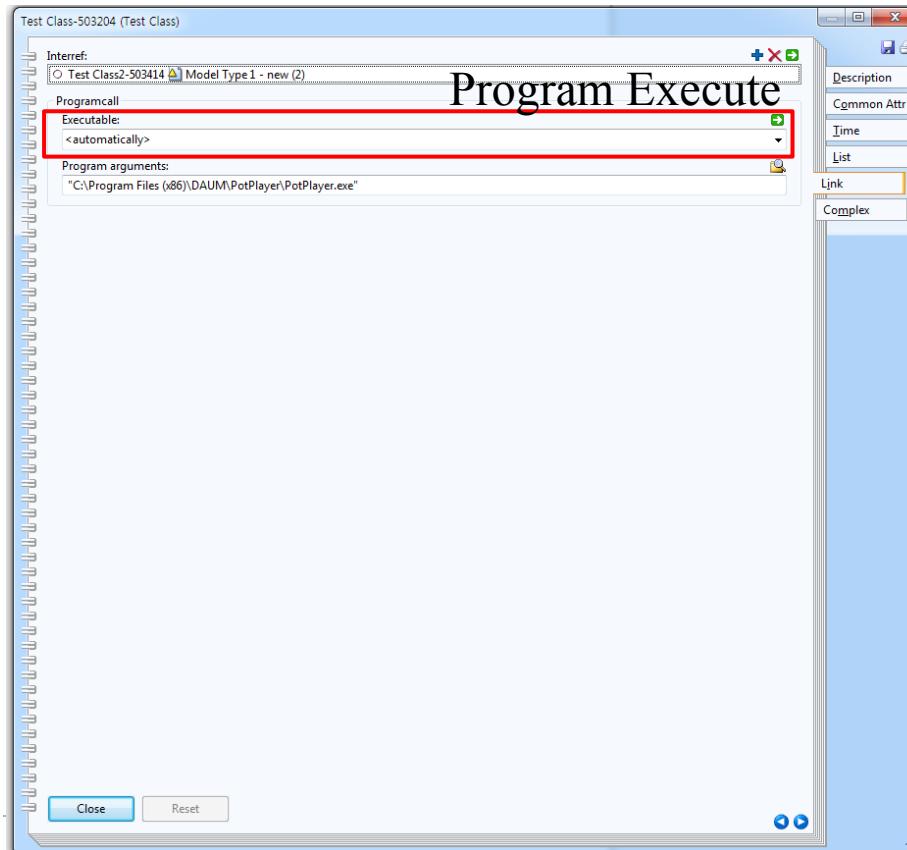
Modeling Language

- ▶ Attributes
 - ▶ Link Type
 - ▶ PROGRAMCALL



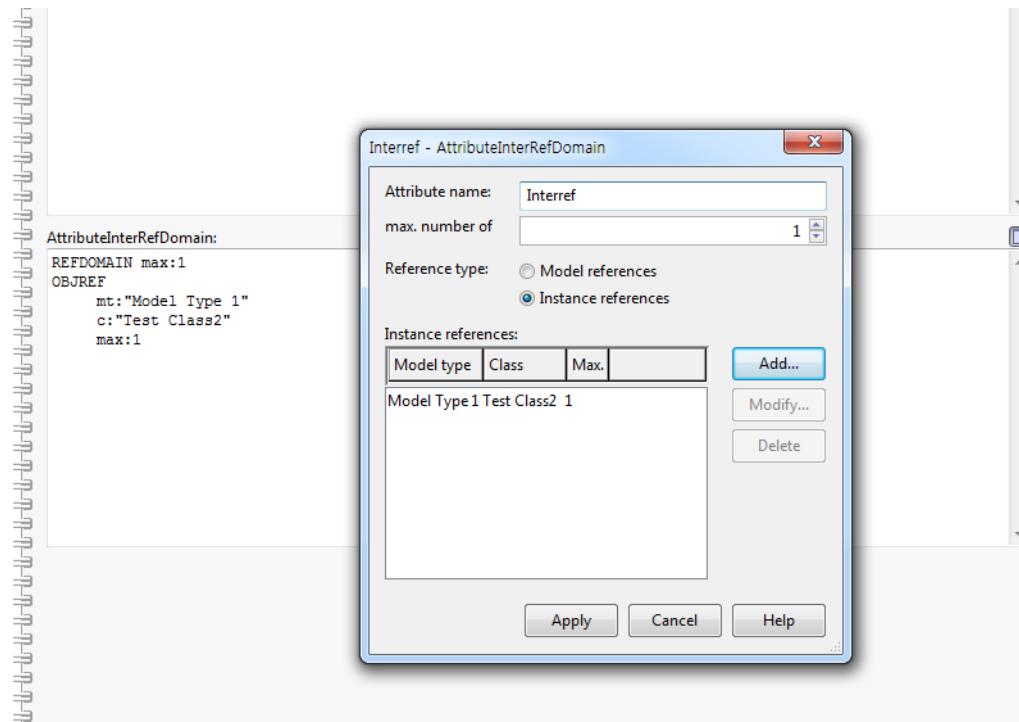
Modeling Language

- ▶ Attributes
 - ▶ Link Type
 - ▶ PROGRAMCALL



Modeling Language

- ▶ Attributes
 - ▶ Link Type
 - ▶ INTERREF – Model Type definitions are required



Modeling Language

- ▶ Attributes
 - ▶ Set Type
 - ▶ RECORD, ATTRPROFREF

Test Class-503204 (Test Class)

Profile

Profile Attr 1:
123

Profile Attr 2:
text 123

Record:

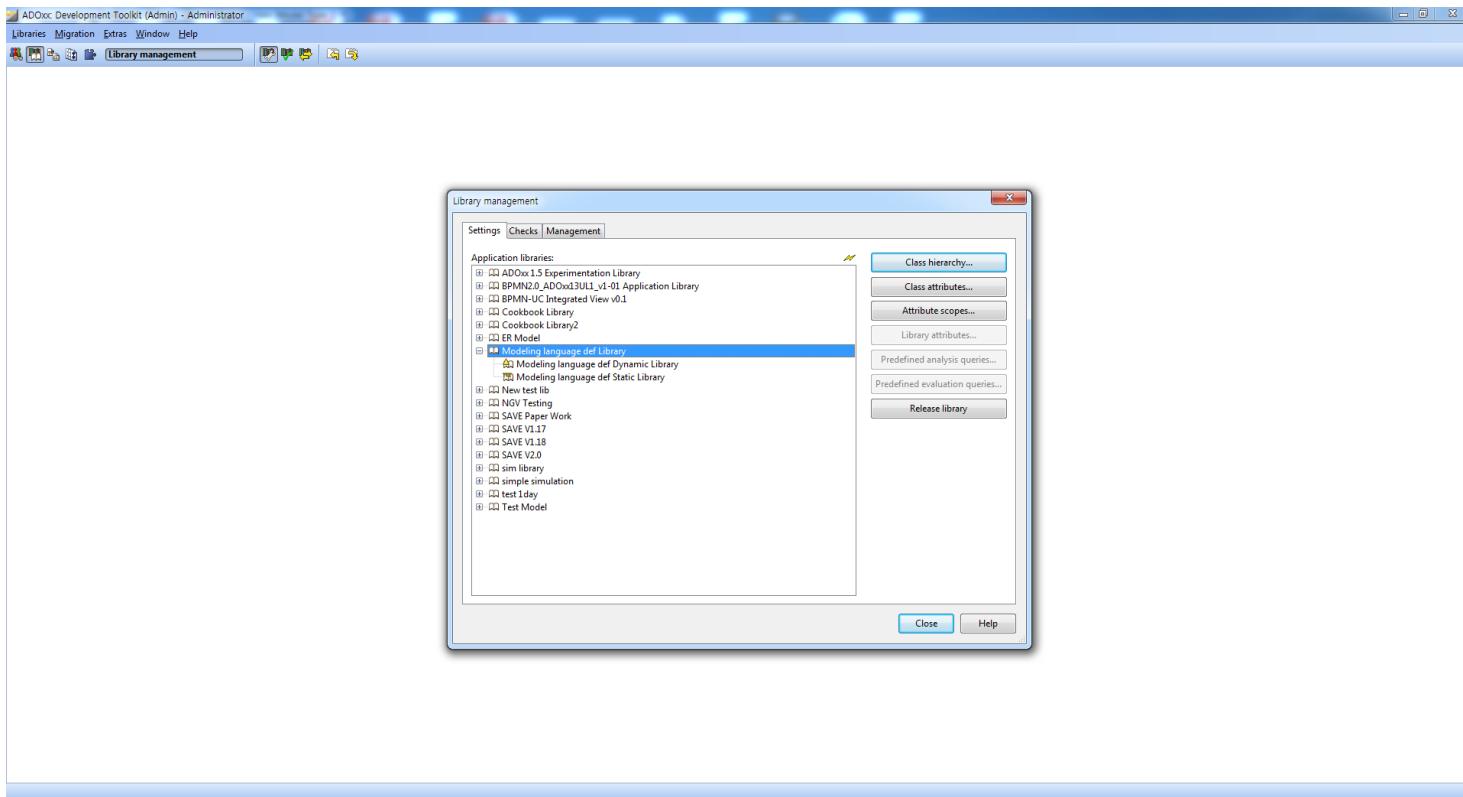
	Record Attr 1	Record Attr 2
1	123	text 123

Complex

Toolbars and buttons for managing the profile and record attributes.

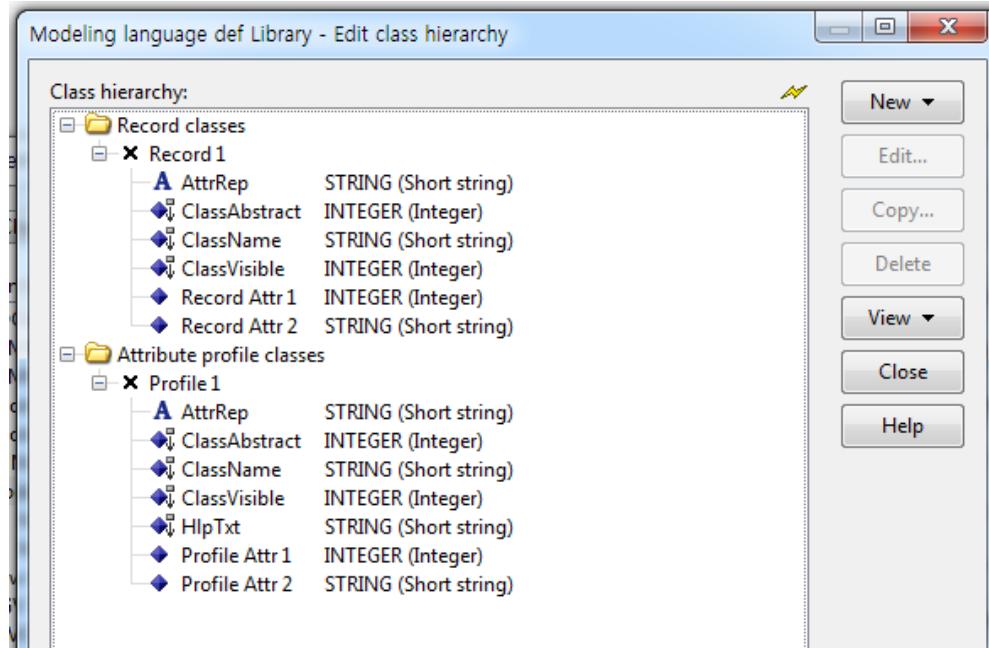
Modeling Language

- ▶ Attributes
 - ▶ Set Type
 - ▶ RECORD, ATTRPROFREF



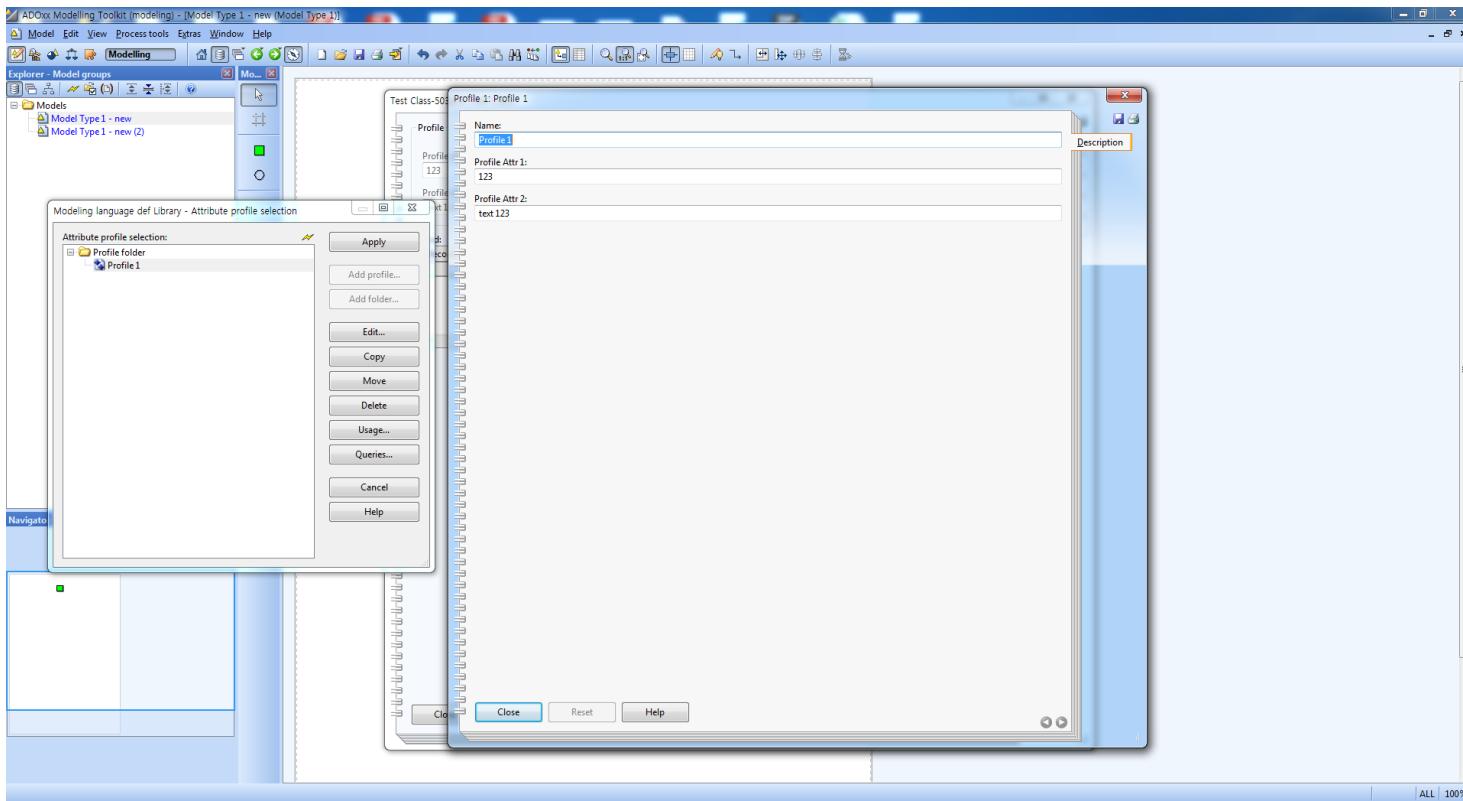
Modeling Language

- ▶ Attributes
 - ▶ Set Type
 - ▶ RECORD, ATTRPROFREF



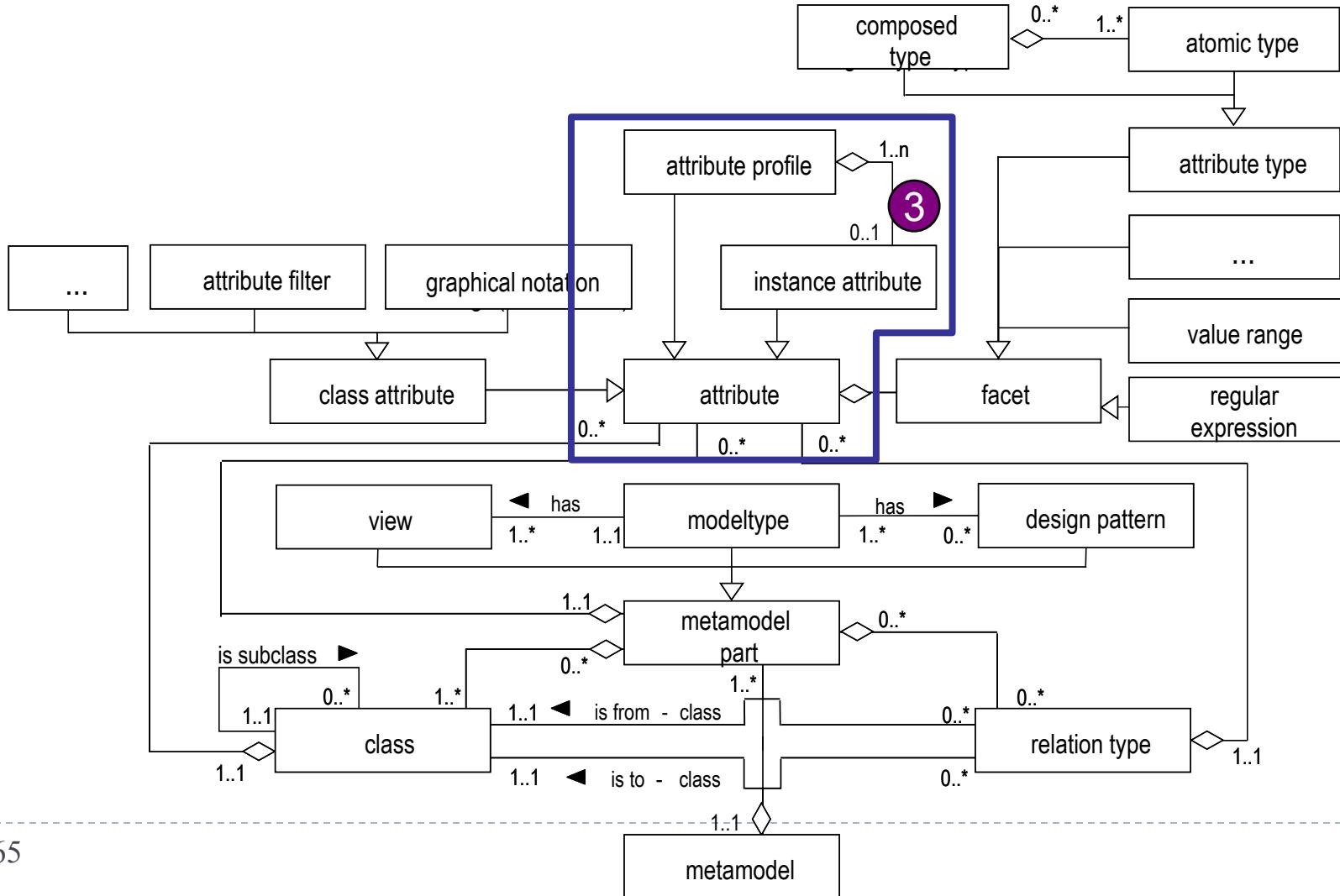
Modeling Language

- ▶ Attributes
 - ▶ Set Type
 - ▶ ATTRPROFREF



Modeling Language

③ Special Class Attribute & Attribute



Modeling Language

▶ Special Attributes

GraphRep: Graphical representation (object- and relation classes)

AttrRep: Notebook-Definition (all classes)

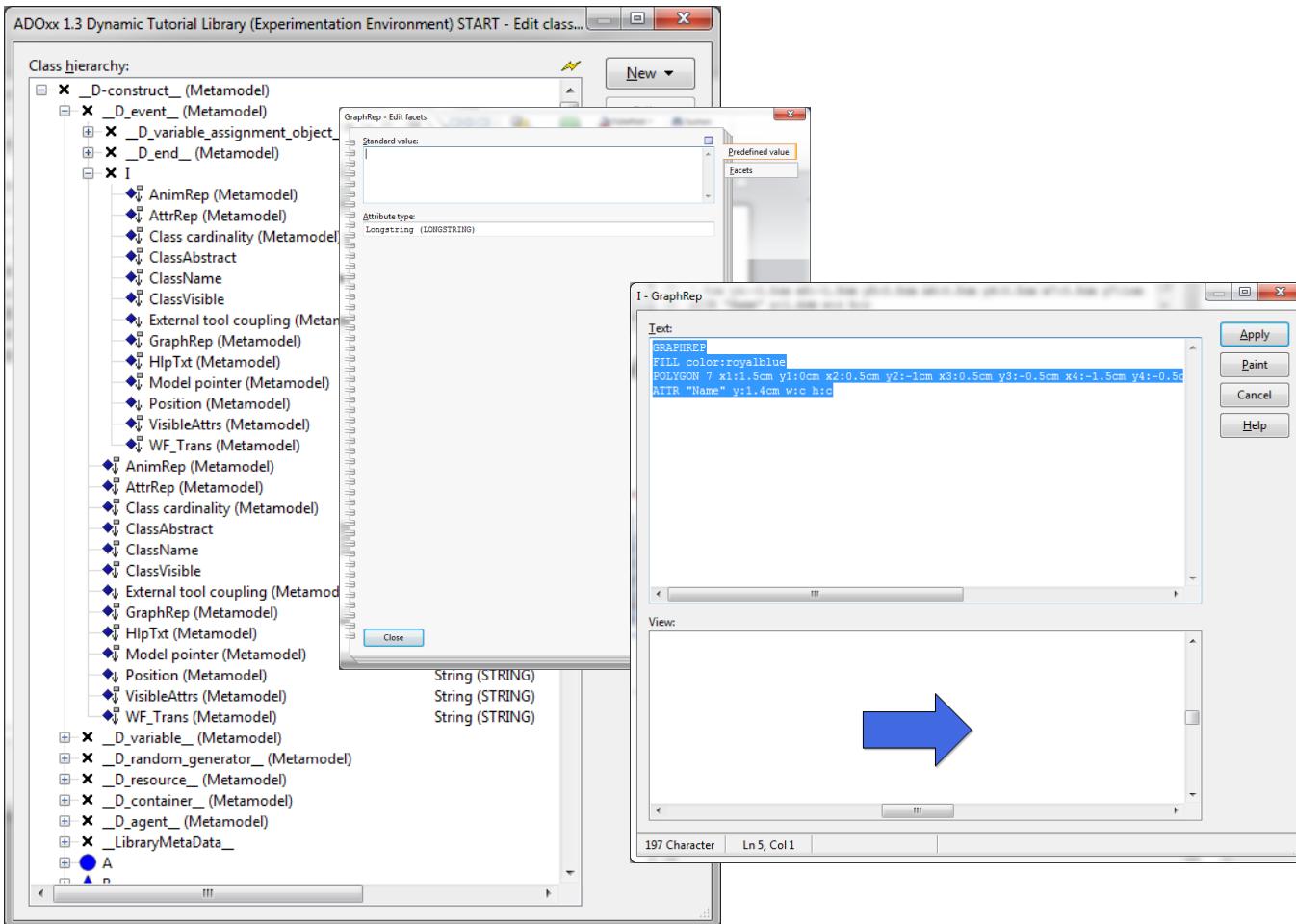
Model pointer: Relations to other models (object classes)

Class cardinality: Relation constraints (object classes)

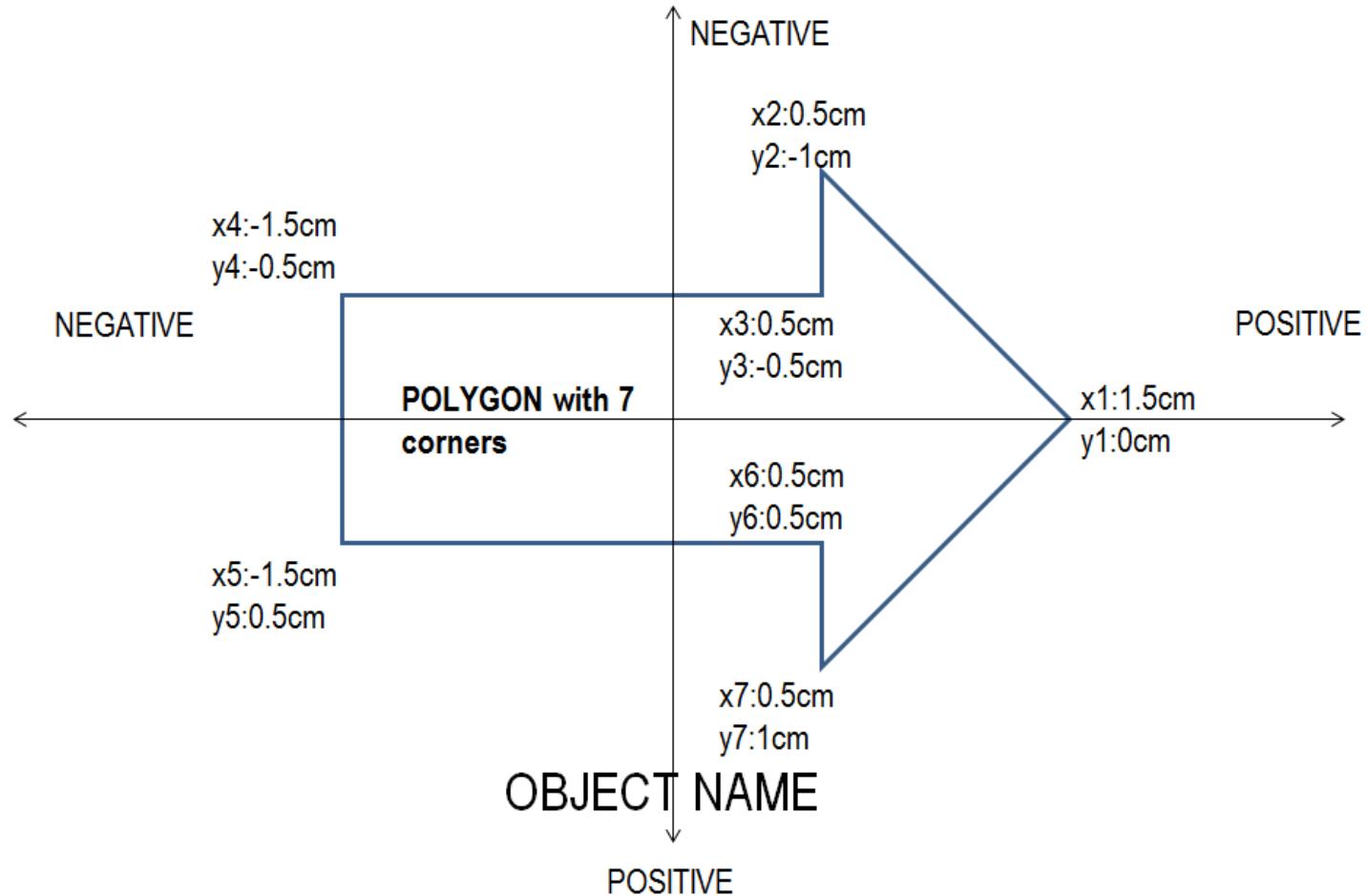
Conversion: Conversion from one object to another

Modeling Language

► GraphRep



Modeling Language



Modeling Language

- ▶ Rules
 - ▶ GRAPHREP
 - ▶ (Graphrep codes...)

Modeling Language

▶ Codes

- ▶ RECTANGLE x:? y:? w:? h?:
 - ▶ x&y: upper-right point
- ▶ ELLIPSE x:? y:? rx:? ry?:
 - ▶ x&y: center point
- ▶ LINE x1:? y1:? x2:? y2?:
- ▶ POLYGON n x1:? y1:? ... xn:? yn?:
- ▶ AVAL name:"Attribute name"

Modeling Language

- ▶ Codes

- ▶ PEN style:? w:? color:?

- ▶ Style

- solid
 - dot
 - dash
 - dashdot
 - null

Modeling Language

- ▶ Codes

- ▶ FILL style:? color:?

- ▶ Style

- solid
- horz
- vert
- cross
- diagram
- updiag
- downdiag
- mix25
- mix50
- mix75
- null

Modeling Language

▶ Codes

▶ Colors

▶ \$??????

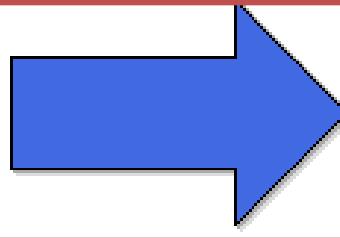
□ \$ff0000 : Red

▶ Pre-defined colors

aliceblue	antiquewhite	aqua	aquamarine	azure	beige	bisque
black	blanchedalmond	blue	blueviolet	brown	burlywood	cadetblue
chartreuse	chocolate	coral	cornflowerblue	cornsilk	crimson	cyan
darkblue	darkcyan	darkgoldenrod	darkgray	darkgreen	darkkhaki	darkmagenta
darkolivegreen	darkorange	darkorchid	darkred	darksalmon	darkseagreen	darkslateblue
darkslategray	darkturquoise	darkviolet	deeppink	deepskyblue	dimgray	dodgerblue
firebrick	floralwhite	forestgreen	fuchsia	gainsboro	ghostwhite	gold
goldenrod	gray	green	greenyellow	honeydew	hotpink	indianred
indigo	ivory	khaki	lavender	lavenderblush	lawngreen	lemonchiffon
lightblue	lightcoral	lightcyan	lightgoldenrodyellow	lightgreen	lightgray	lightmagenta
lightpink	lightsalmon	lightseagreen	lightskyblue	lightslategray	lightsteelblue	lightyellow
lime	limegreen	linen	magenta	maroon	mediumaquamarine	mediumblue
mediumorchid	mediumpurple	mediumseagreen	mediumslateblue	mediumspringgreen	mediumturquoise	mediumvioletred
midnightblue	mintcream	mistyrose	moccasin	navajowhite	navy	oldlace
olive	olivedrab	orange	orangered	orchid	palegoldenrod	palegreen
paleturquoise	palevioletred	papayawhip	peachpuff	peru	pink	plum
powderblue	purple	red	rosybrown	royalblue	saddlebrown	salmon
sandybrown	seagreen	seashell	sienna	silver	skyblue	slateblue
slategray	snow	springgreen	steelblue	tan	teal	thistle
tomato	turquoise	violet	wheat	white	whitesmoke	yellow
yellowgreen						

Modeling Language

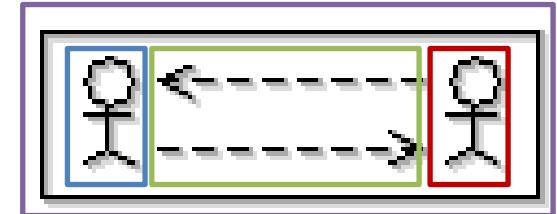
```
GRAPHREP
FILL color:royalblue
POLYGON 7 x1:1.5cm y1:0cm x2:0.5cm
y2:-1cm x3:0.5cm y3:-0.5cm x4:-1.5cm
y4:-0.5cm x5:-1.5cm y5:0.5cm
x6:0.5cm y6:0.5cm x7:0.5cm y7:1cm
ATTR "Name" y:1.4cm w:c h:c
```



In case attribute name is available, it is shown here

Modeling Language

```
GRAPHREP
#Container Rectangle
RECTANGLE x:-1.5cm y:-0.5cm w:3cm h:1cm
#Arrow Lines
PEN style:dash
LINE x1:-0.8cm x2:0.8cm y1:-0.2cm y2:-0.2cm
LINE x1:-0.8cm x2:0.8cm y1:0.2cm y2:0.2cm
#Arrow Ends
PEN style:solid
LINE x1:-0.8cm x2:-0.6cm y1:-0.2cm y2:-0.1cm
LINE x1:-0.8cm x2:-0.6cm y1:-0.2cm y2:-0.3cm
LINE x1:0.8cm x2:0.6cm y1:0.2cm y2:0.1cm
LINE x1:0.8cm x2:0.6cm y1:0.2cm y2:0.3cm
#Right actor
ELLIPSE x:1.1cm y:-0.2cm rx:0.15cm ry:0.15cm
LINE x1:1.1cm x2:1.1cm y1:-0.05cm y2:0.2cm
LINE x1:1.1cm x2:0.95cm y1:0.2cm y2:.3cm
LINE x1:1.1cm x2:1.25cm y1:0.2cm y2:.3cm
LINE x1:0.95cm x2:1.25cm
#Left actor
ELLIPSE x:-1.1cm y:-0.2cm rx:0.15cm ry:0.15cm
LINE x1:-1.1cm x2:-1.1cm y1:-0.05cm y2:0.2cm
LINE x1:-1.1cm x2:-0.95cm y1:0.2cm y2:.3cm
LINE x1:-1.1cm x2:-1.25cm y1:0.2cm y2:.3cm
LINE x1:-0.95cm x2:-1.25cm
#Attribute Representation
▶ 75 ATTR "Name" y:0.8cm w:c h:c
```



In case attribute name is available, it is shown here

Modeling Language

- ▶ Examples
 - ▶ ADOxx Homepage

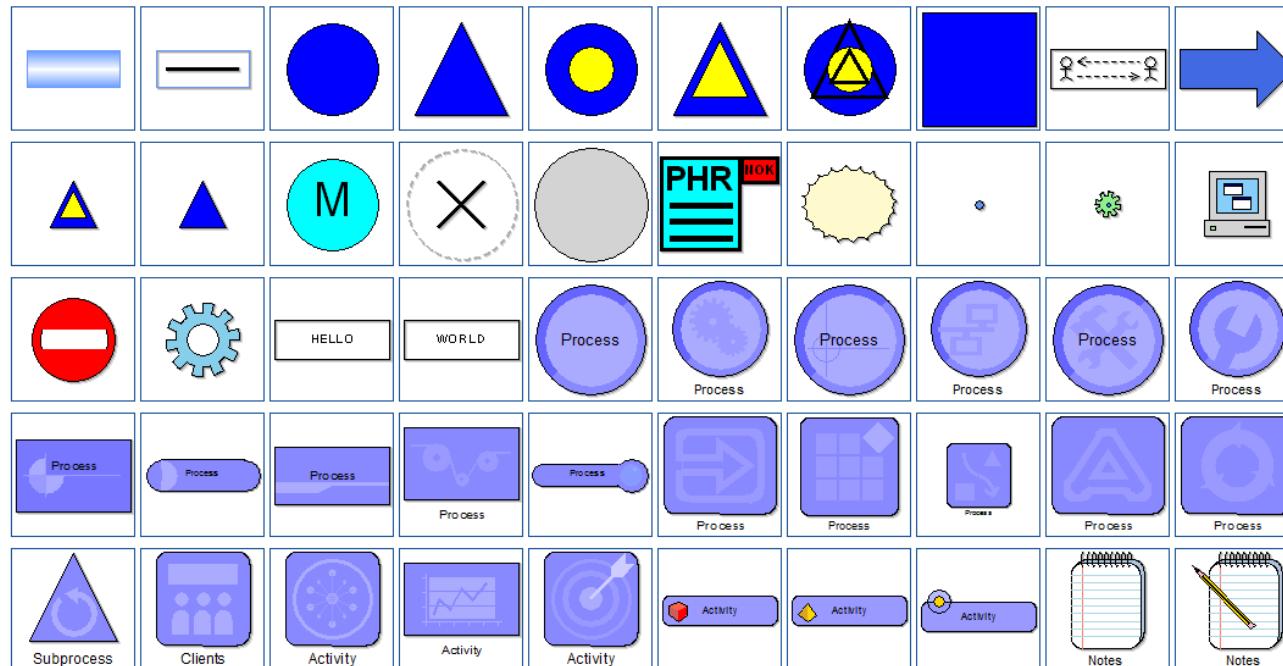
ADOxx GraphRep Repository

(Redirected from FrontPage)

Tags: graphrep

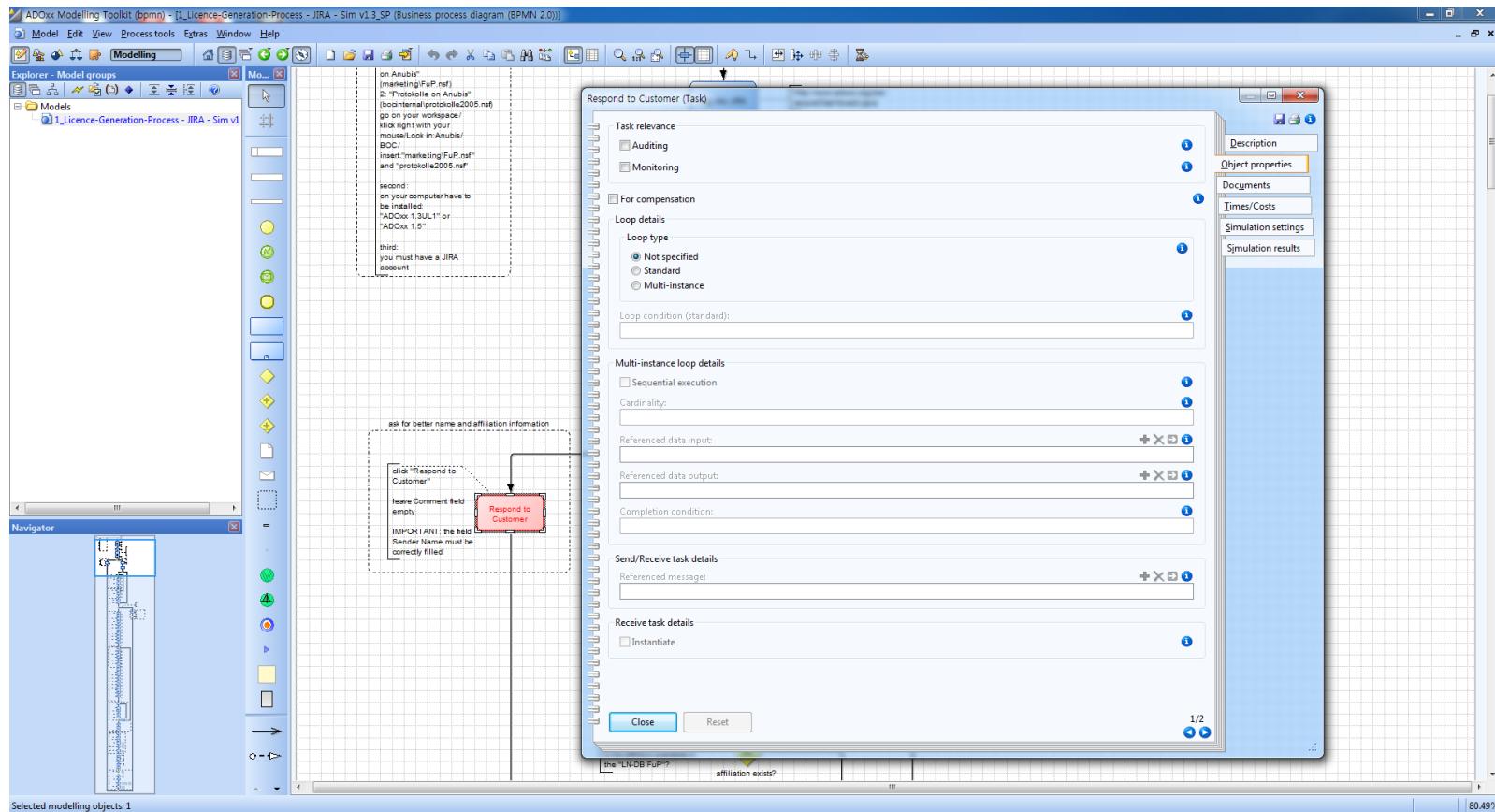
The ADOxx GraphRep repository collects implementation of graphical representation from different scenarios and projects and provides them to the community. As a community member, feel free to add, revise, use, modify, comment and rate the GraphReps available in the repository.

CLASSES



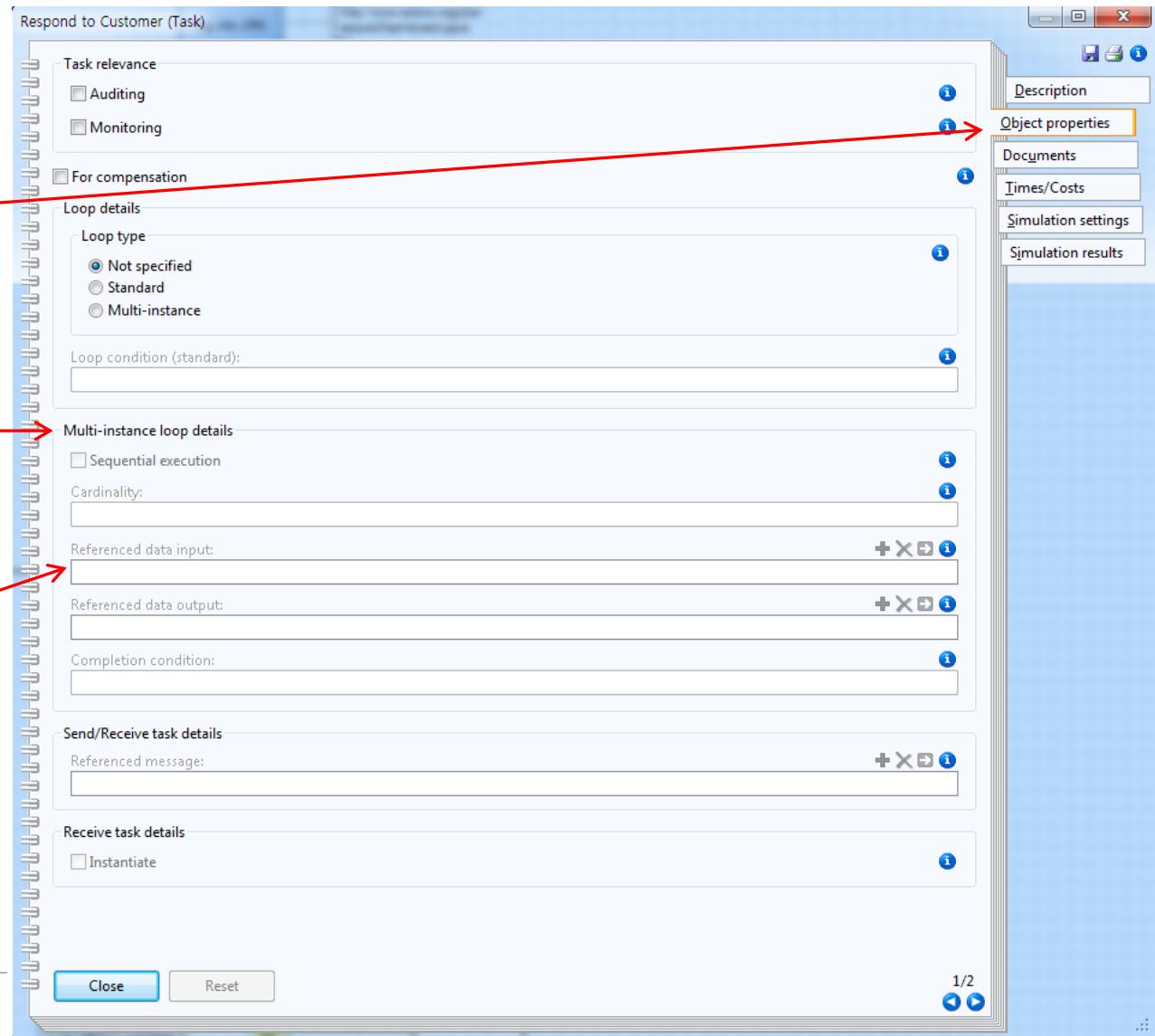
Modeling Language

- ▶ AttrRep
- ▶ Notebook



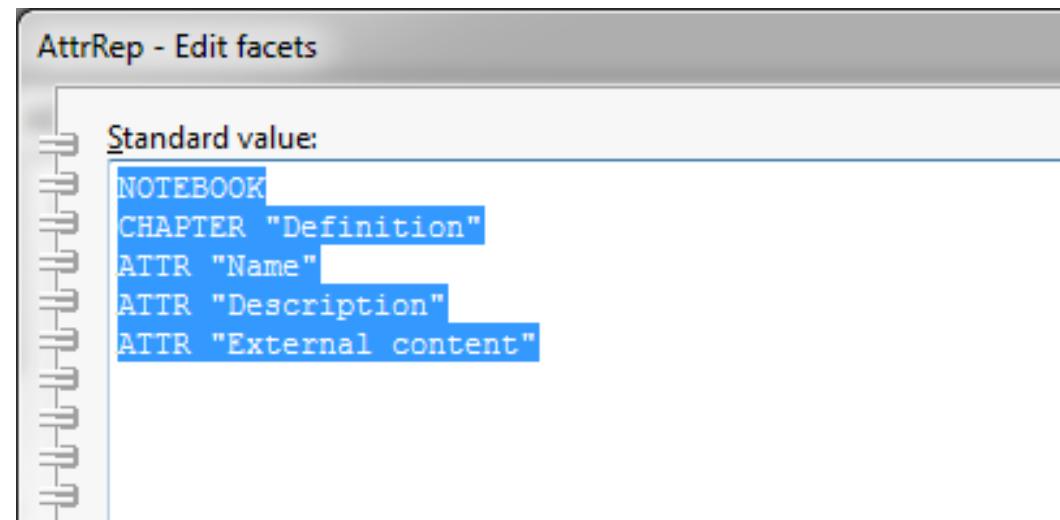
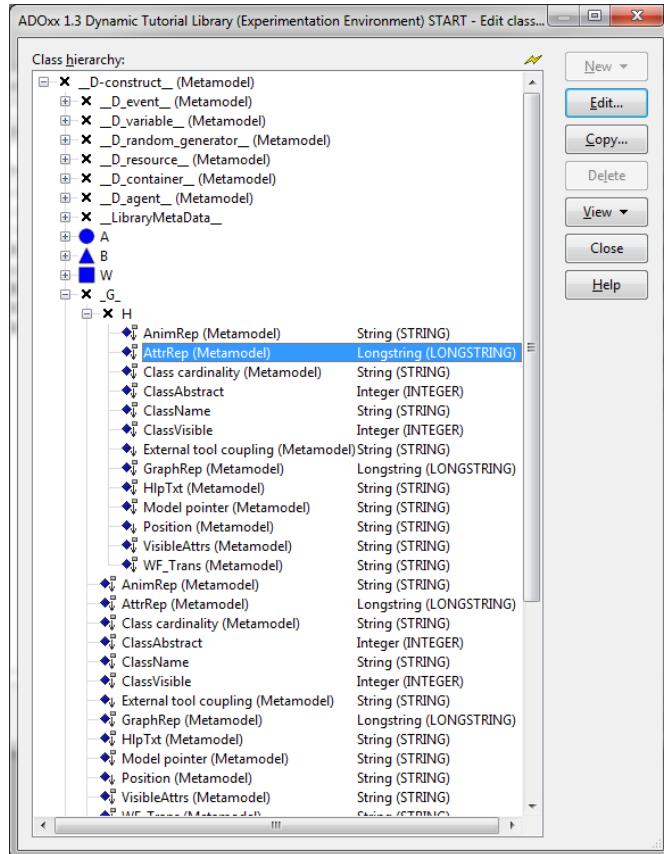
Modeling Language

- ▶ AttrRep
 - ▶ Notebook
 - ▶ Chapter
 - ▶ Group
 - ▶ Attribute



Modeling Language

► AttrRep



Modeling Language

NOTEBOOK

```
CHAPTER "Definition"  
ATTR "Name"  
GROUP "Definition"  
ATTR "Description"  
ATTR "External content"  
ENDGROUP
```

Chapter Structure

Attributes

Grouping of attributes on same chapter

Modeling Language

- ▶ Class Cardinalities
 - ▶ The minimal/maximal number of objects of this class per model
 - ▶ The minimal/maximal number of relations of a specific type

Modeling Language

CARDINALITIES

The cardinality definition must start with this command to be valid. It has no parameters.

RELATION "RelationName"

Restricts the following commands to the relation class with the name <RelationName>.

FROM_CLASS "ClassName" / TO_CLASS "ClassName"

Restricts the following commands to relations with the class of <ClassName>.

min-objects / max-objects

Specifies how many objects of a class can minimally/maximally be available in the model.

min-relations / max-relations

Specifies the minimal/maximal number of relations which can be connected with this object from this class.

max-outgoing / min-outgoing / max-incoming / min-incoming

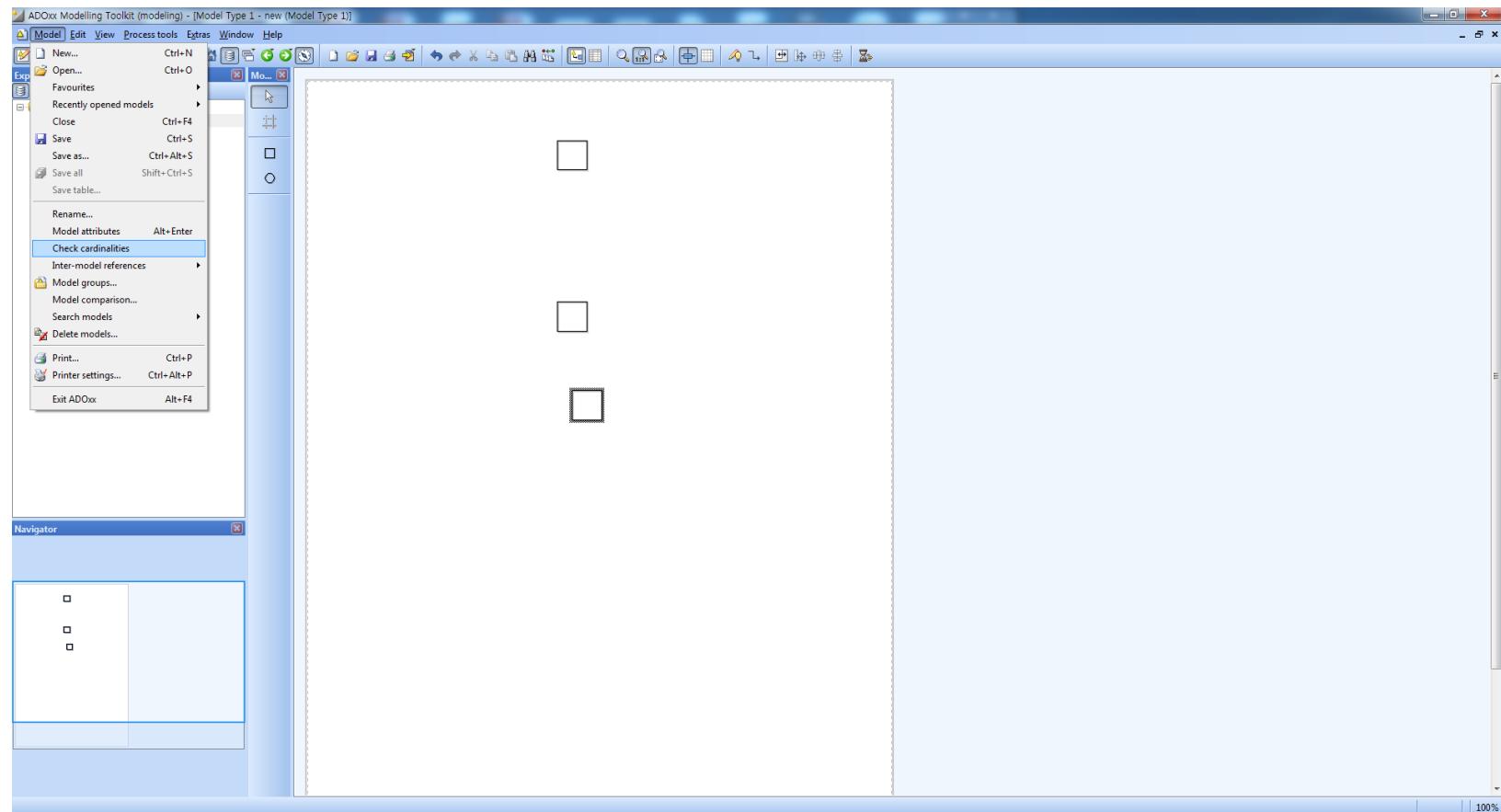
Restricts the number of allowed incoming/outgoing relations; either:

Modeling Language

- ▶ Example
 - ▶ CARDINALITIES max-objects:1
RELATION "ra" max-incoming:0 max-outgoing:1

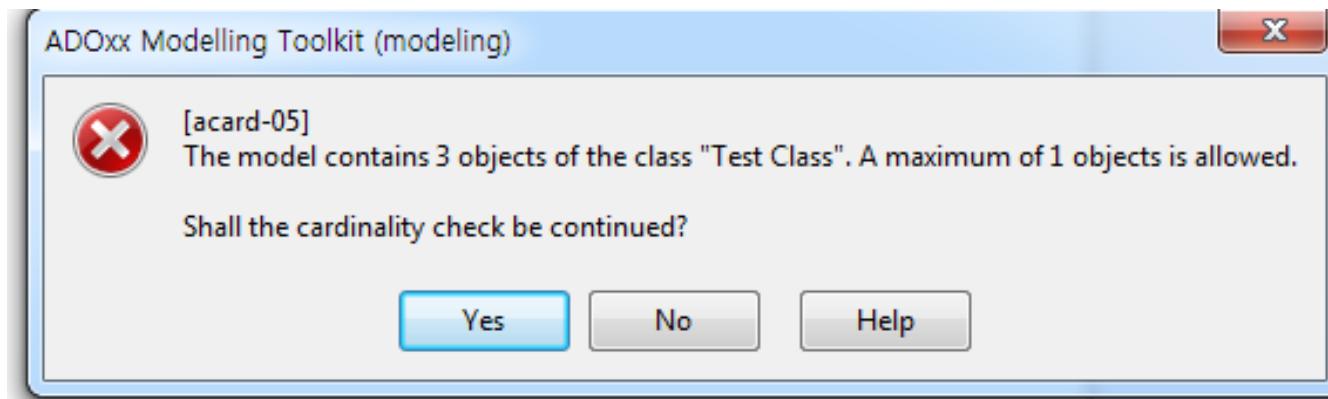
Modeling Language

► Example



Modeling Language

► Example



Modeling Language

▶ Conversion

- ▶ Conversion of a modeling object from one class to another

CLASS "ClassName"

Specifies that an object can be converted into the target class <ClassName>. Several target classes can be specified.

ATTR "AttrName"

Defines the attributes from which the values will be copied during the conversion.

from

This parameter is used if values should be copied from the source object to the target object, but the corresponding attributes have different names. **from** specifies the name of the source attribute.

Modeling Language

The screenshot shows the ADOxx Modelling Toolkit interface with two open class definitions: **C1 (C)** and **E2 (E)**.

CLASS "C"

- ATTR "Name": C1
- ATTR "a1": 0
- ATTR "a2":
 - aa1: 1 [T] - target-1 (Sample-Target)
 - aa1: 2 [T] - target-1 (Sample-Target)
- ATTR "a3": 11
- ATTR "a4": 0

CLASS "E"

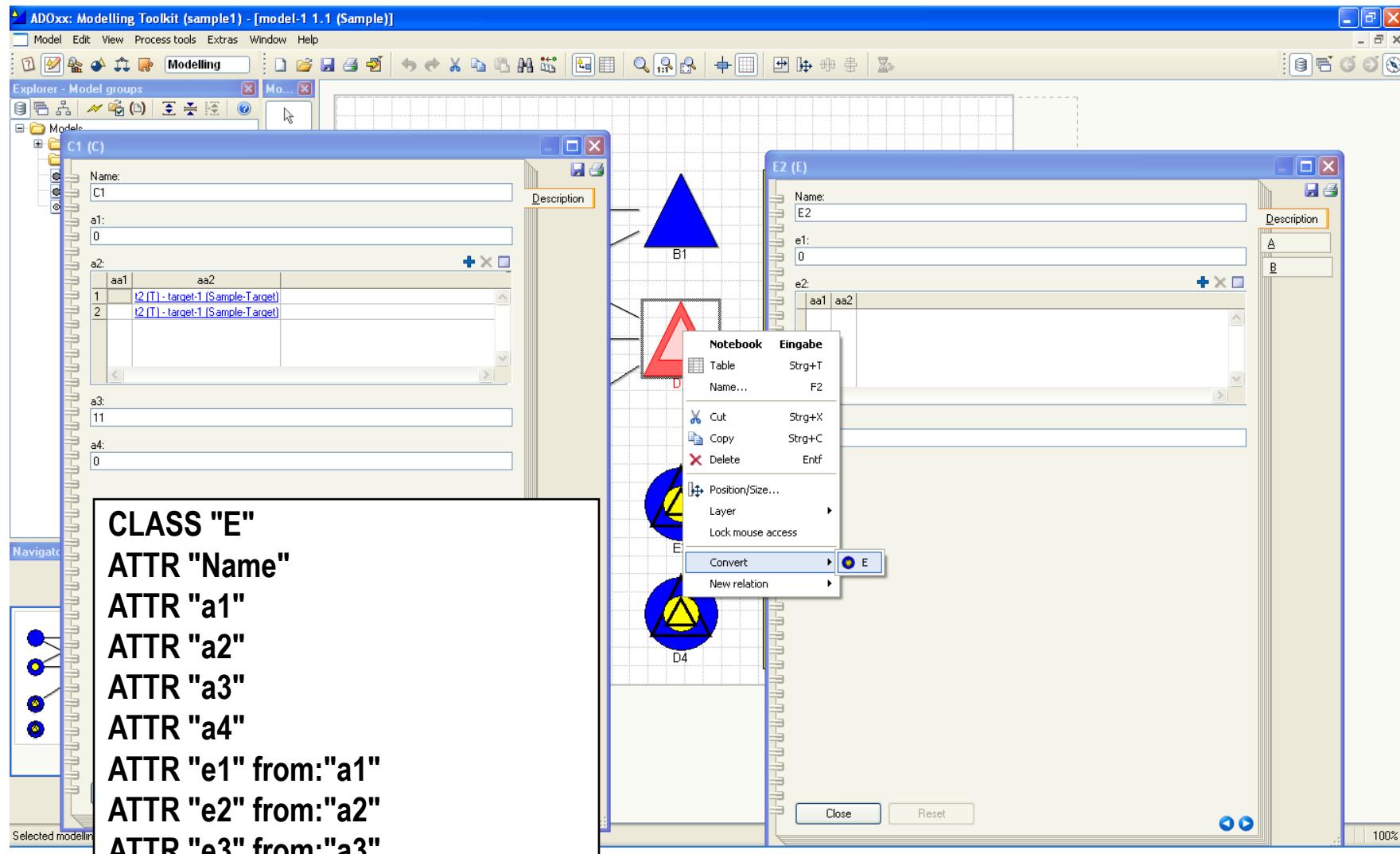
- ATTR "Name": E2
- ATTR "e1": 0
- ATTR "e2":
 - aa1 aa2:

A context menu is open over a diagram element, listing options: Notebook, Eingabe, Table, Strg+T, Name..., F2, Cut, Strg+X, Copy, Strg+C, Delete, Entf, Position/Size..., Layer, Lock mouse access, Convert, and New relation.

Selected modelling objects: 1

100%

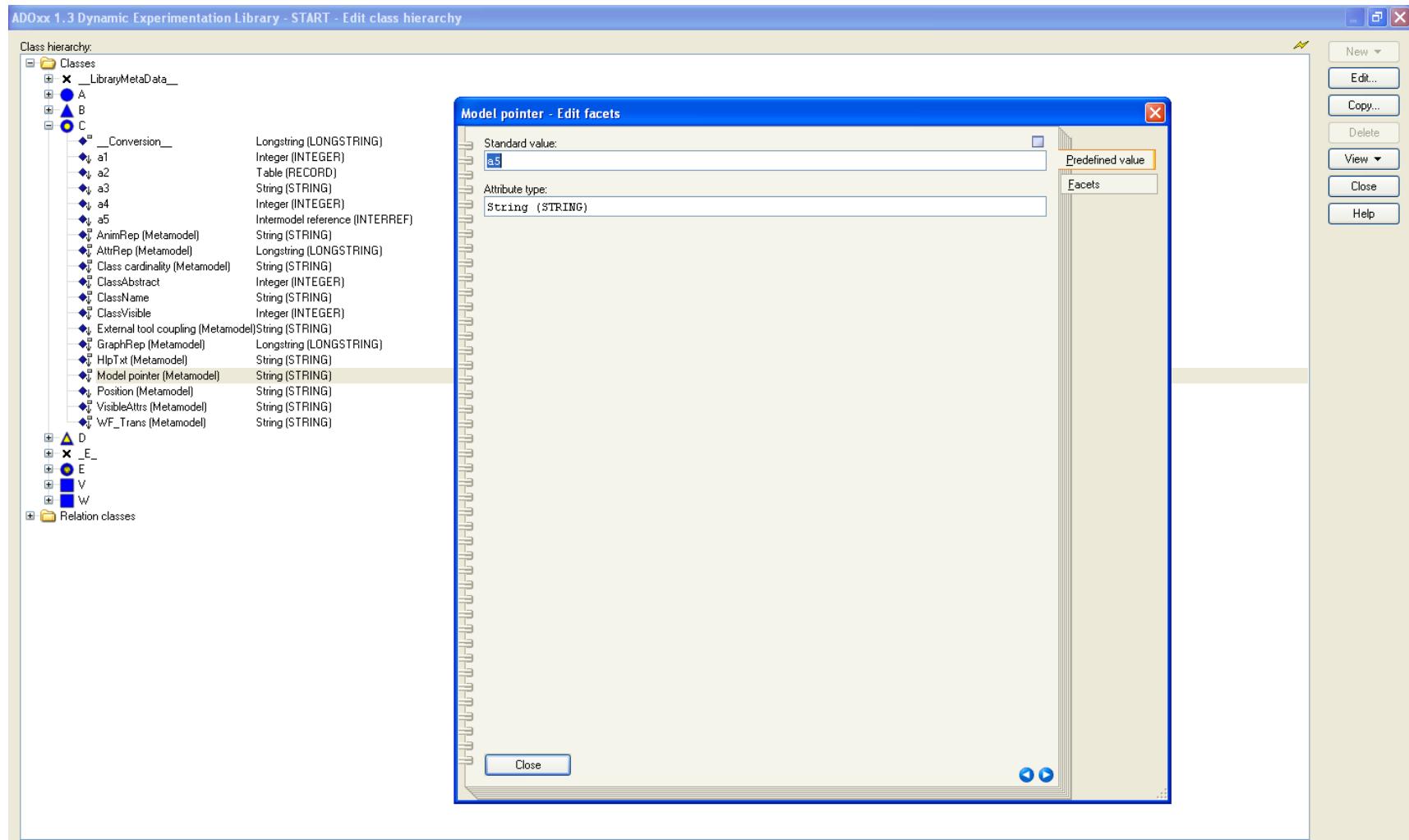
Modeling Language



Modeling Language

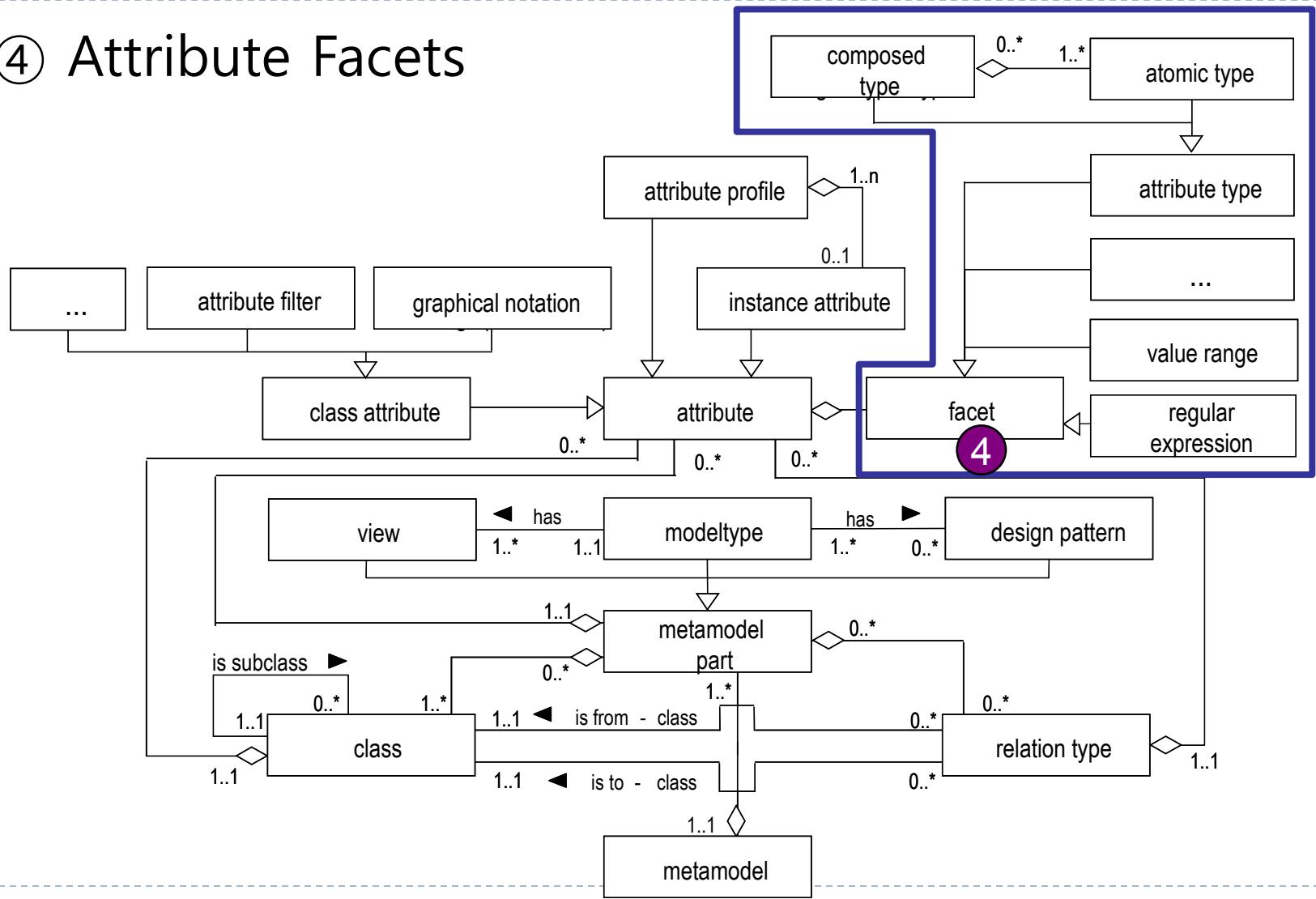
- ▶ Model pointer
 - ▶ Directly to another model
 - ▶ Using interref attribute
 - ▶ <Ctrl> + double click

Modeling Language



Modeling Language

④ Attribute Facets



Modeling Language

► Attribute Facets

	AttributeNumeric Domain	AttributeRegular Expression	AttributeInterref Domain	Enumeration Domain	MultiLineString	AttributeHelp Text	RecordClass Name	RecordClass Multiplicity
INTEGER	X					X		
DOUBLE	X					X		
STRING		X		X	X			
LONGSTRING	X			X	X			
TIME						X		
ENUMERATION		X		X		X		
ENUMERATIONLIST		X		X		X		
PROGRAMCALL				X		X		
RECORD						X	X	X
EXPRESSION					X	X		
INTERREF			X			X		

Modeling Language

► Example

```
DOMAIN
```

```
    message:"The valid Value Range of the Attribute lies between 0 and 100 and  
    between 1000 and 1100."
```

```
INTERVAL
```

```
    lowerbound:0
```

```
    upperbound:100
```

```
INTERVAL
```

```
    lowerbound:1000
```

```
    upperbound:1100
```

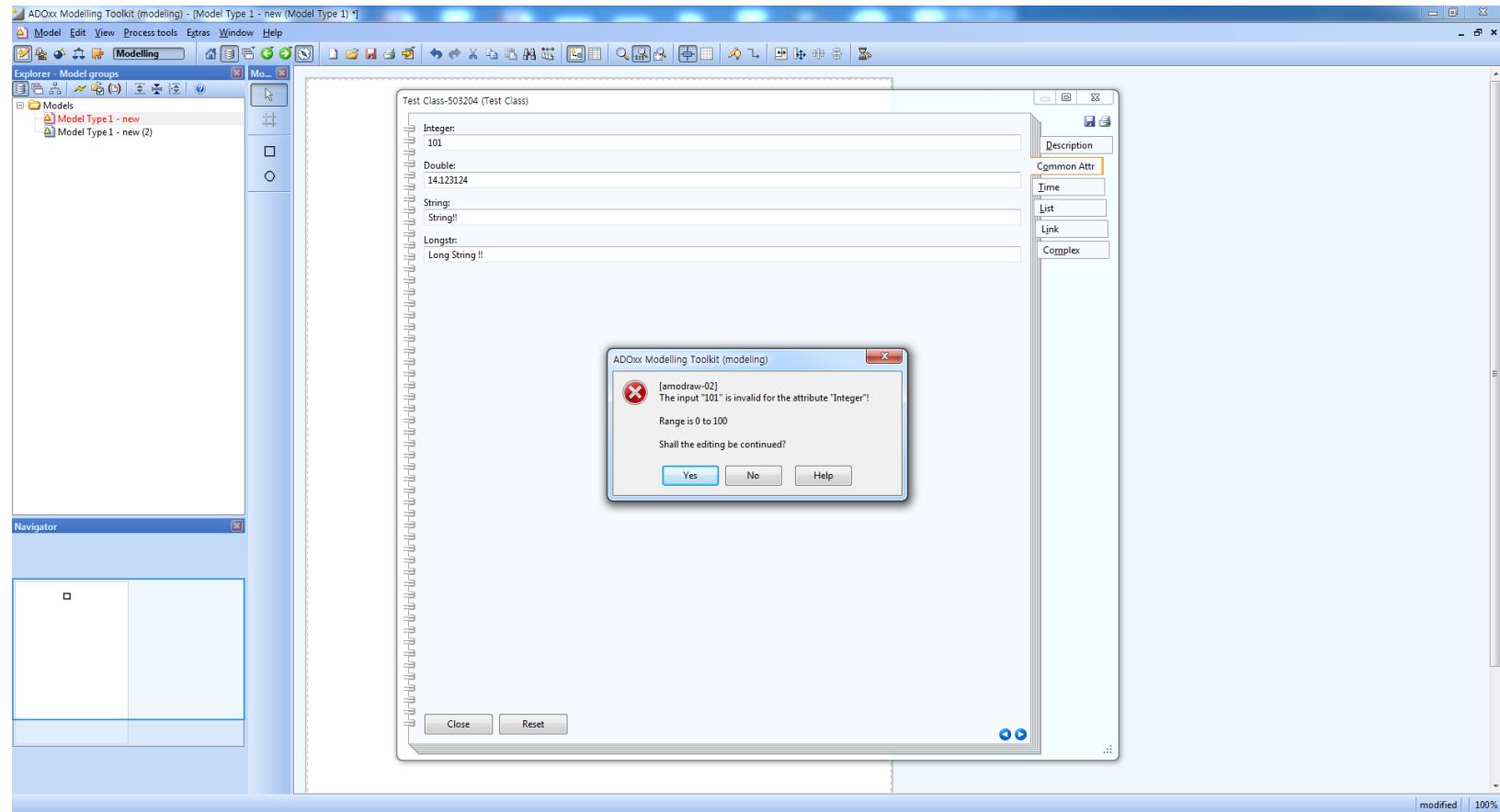
```
REGEXP
```

```
message:"That is not a valid e-mail address!"
```

```
expression:".*@.*"
```

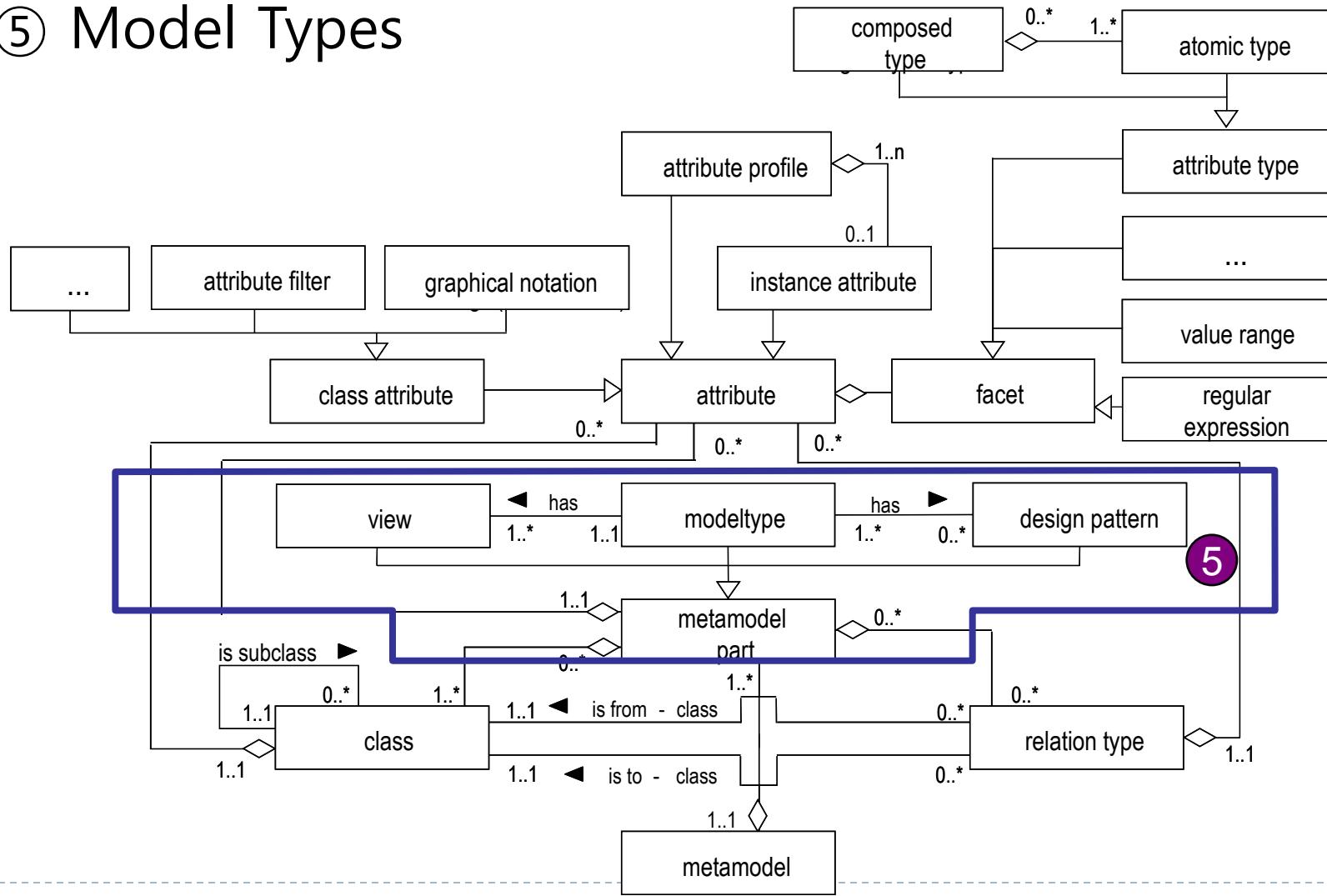
Modeling Language

► Example



Modeling Language

⑤ Model Types



Modeling Language

- ▶ Model type
 - ▶ Subset of all instanciable classes and relations

MODELTYPE "modelTypeName" from MTSource

This command defines a model type <modelTypeName> and inherits all classes and relations from the source <MTSource> (**all**, **none** or a different model type)

plural: "modelTypePluralName"

Defines the plural name of a model type.

bitmap: "fileName"

Defines a graphical symbol for the selection list (<fileName> = path and file name; backslashes must be masked with an additional backslash, i.e. "\\").

attrrep: "attrName"

Provides a Notebook (defined in the library as an attribute with the name <attrName>) with model attributes for a model type.

INCL / EXCL

Adds (except for **all**) /removes (except for **none**) classes and relations to the **MODELTYPE**.

pos / not-simulateable

Determines the position in list of model types / excludes the model type from simulation.

Modeling Language

► Model Types

```
MODELTYPE "My First Model Type"
  from:none
  plural:"My First Model Types"
  pos:1
  not-simulateable
  bitmap:"db:\\MyFirstModelType.bmp"
  attrrep:"Notebook for My First Model Type"
INCL "My Class 1"
INCL "My Class 2"
INCL "My Class 3"
INCL "has relationship 1"
INCL "has relationship 2"
```

Modeling Language

MODE "modeName" from: "modeSource"

This command defines a view modus with the name <modeName>. A list of classes/relations must be specified (either absolute or relative as described above) together with this command. MODE can be extended using several parameters.

from: "modeSource"

Inherits all the classes and relations from the source <modeSource> (**all**, **none** or a different mode). „**all**“ relates to the list from the model type (not the whole metamodel).

no-modeling

The defined mode is not applicable for modeling and will not be shown in the menu entry “Modi” of the modeling component.

no-documentation

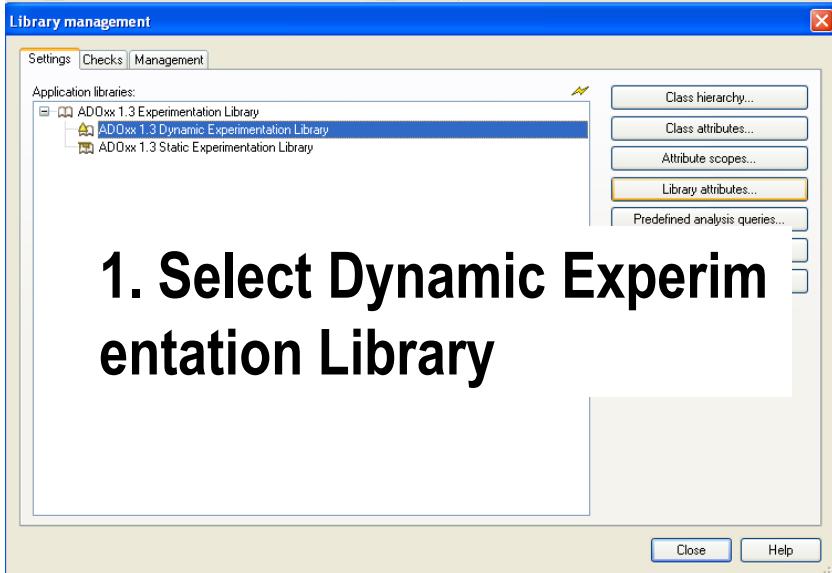
The defined mode is not applicable for creating a documentation.

Modeling Language

```
MODELTYPE „My First Model Type” from:none plural:„My First  
Model Types”  
pos:0 not-simulateable bitmap:"db:\\MyFirstModelType.bmp"  
attrrep:"Notebook of My First ModelType"  
INCL "My Class 1"  
INCL "My Class 2"  
INCL "My Class 3"  
INCL "has relationship 1"  
INCL "has relationship 2"  
MODE "Standard" from:all  
EXCL "My Class 3"  
EXCL "has relationship 2"  
MODE "Documentation" from:Standard no-modeling  
INCL "My Class 3"  
INCL "has relationship 2"
```

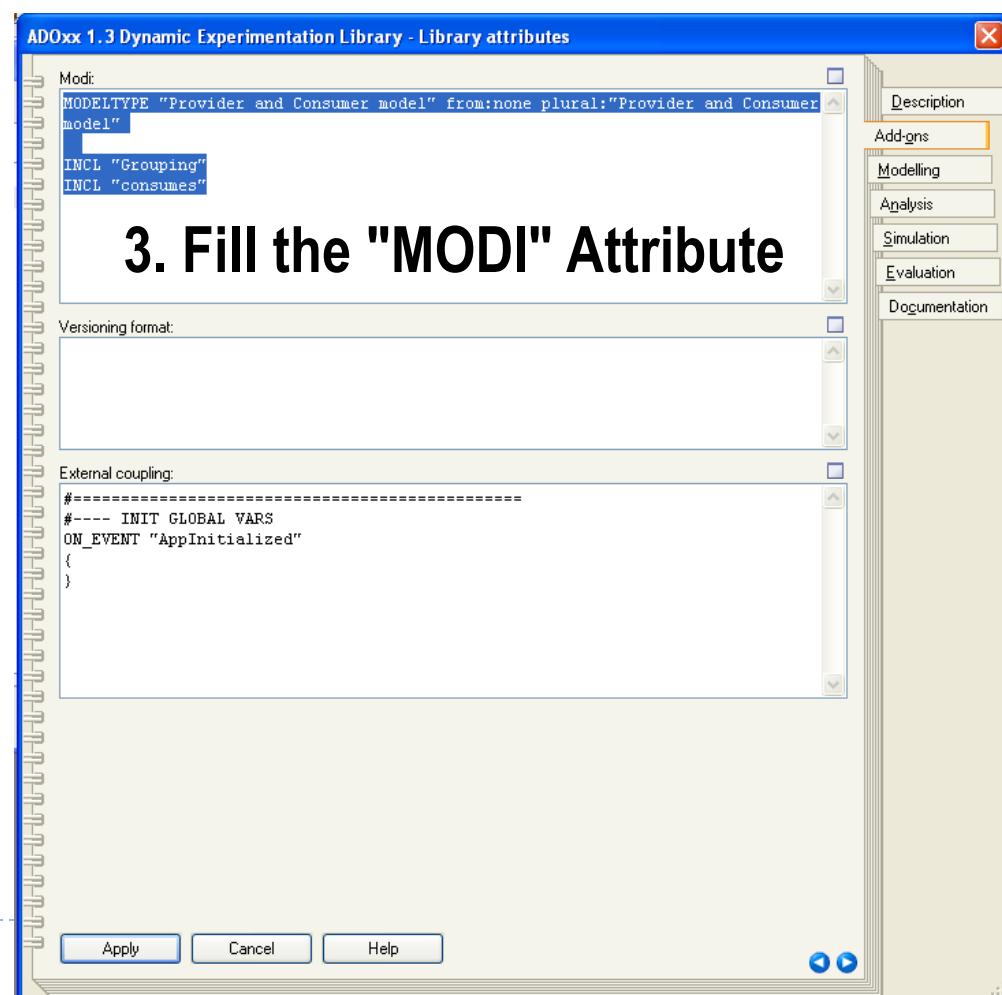
Modeling Language

► Model Types



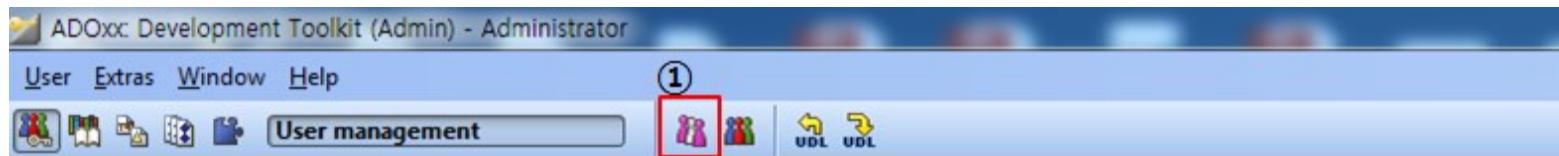
1. Select Dynamic Experimentation Library

2. Select the Tab Add-Ons



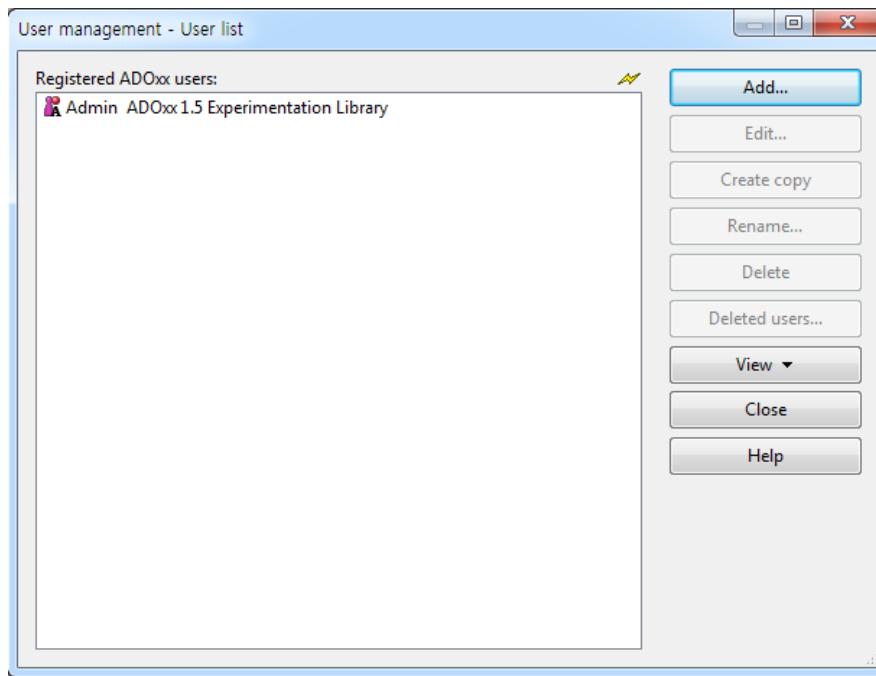
Modeling Tool

- ▶ Create user
 - ▶ Select “User management”
 - ▶ Press button ①



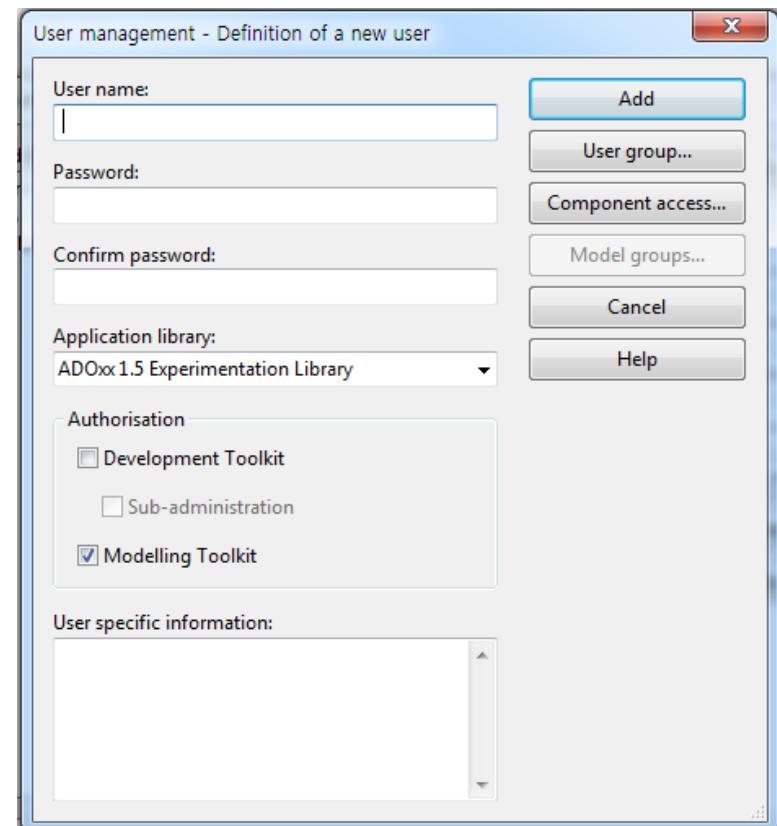
Modeling Tool

- ▶ Create user
 - ▶ Press “Add...” button



Modeling Tool

- ▶ Create user
 - ▶ Input information
 - ▶ User name
 - ▶ Password
 - Confirm password
 - ▶ Application library
 - Select defined library
 - ▶ User group
 - Press “User group...” button
 - Double click: ADOxx
 - Press “OK” button



Modeling Tool

- ▶ Modeling tool
 - ▶ Login
 - ▶ ADOxx Modelling Toolkit

