

## Annotation using Java Application

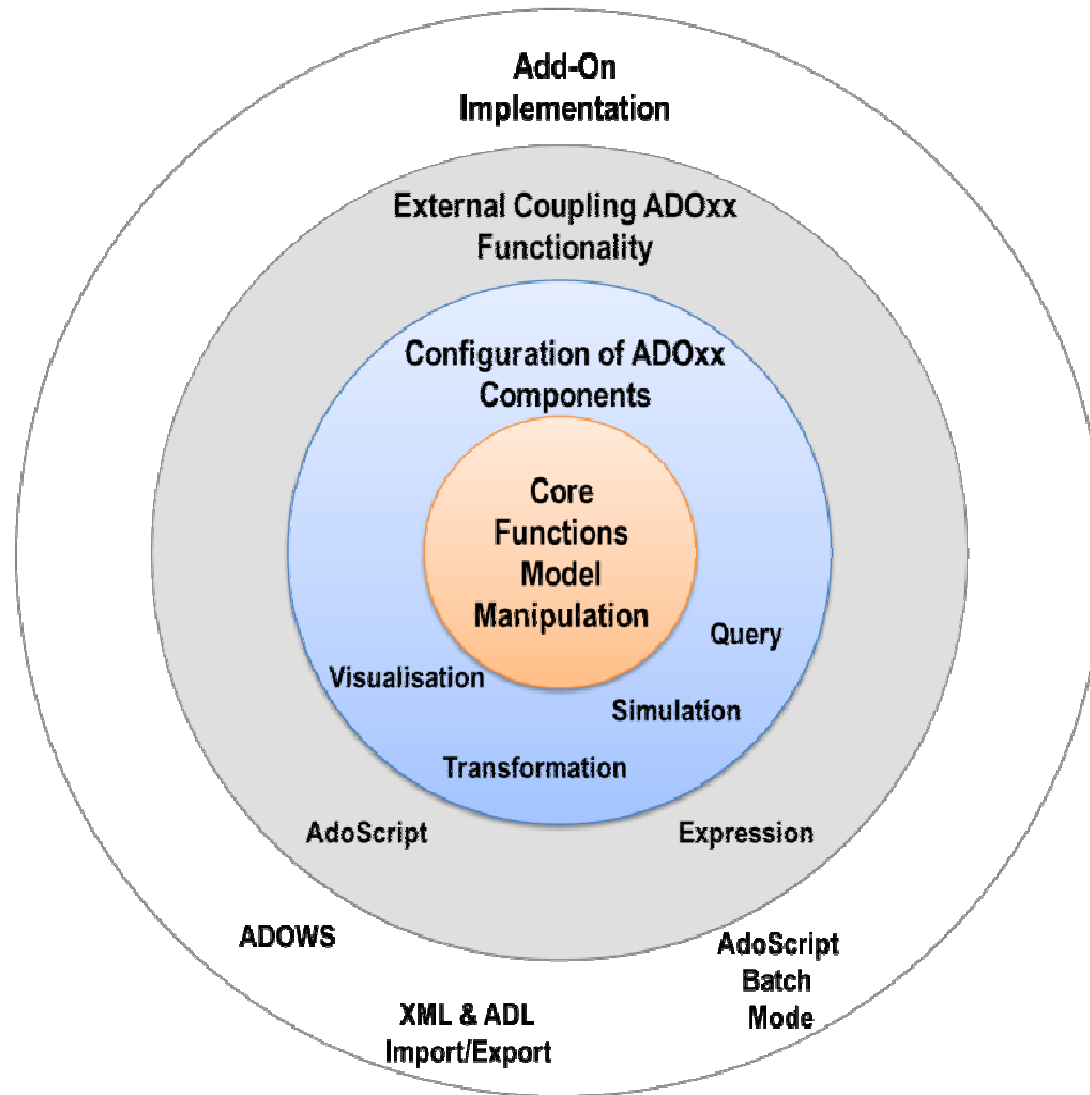
**SCENARIO:**  
**Invoking a Java Application to retrieve a list of concepts for object annotation**

## Scenario Description

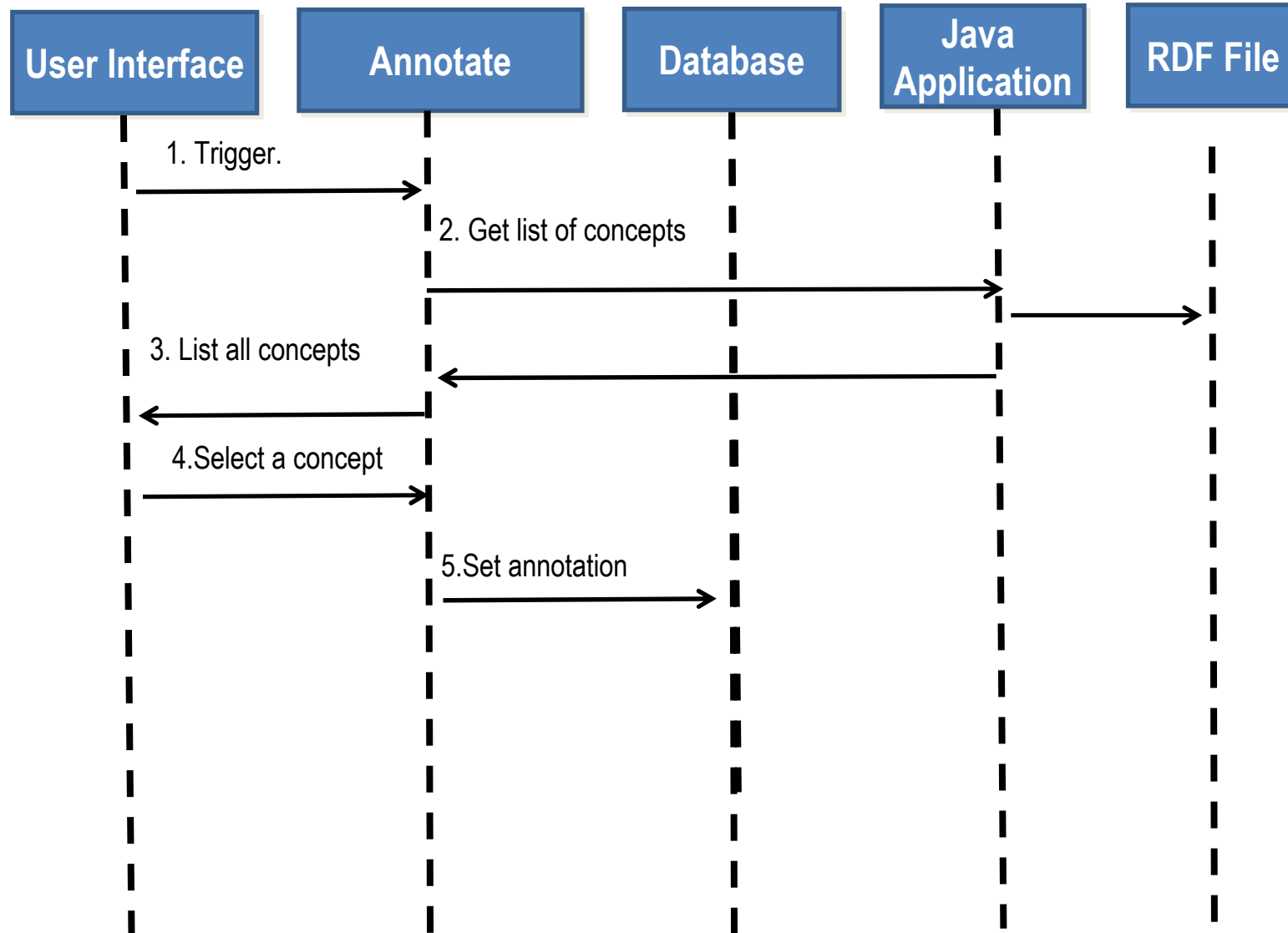
**Goal:** Demonstrate functionality for the application based import of a list of concepts and subsequent annotation of objects in a given models using these concepts.

**Case:** Importation of a list of concepts for the annotation of objects in the modelling environment using a Java application and subsequent annotation of objects using these concepts.

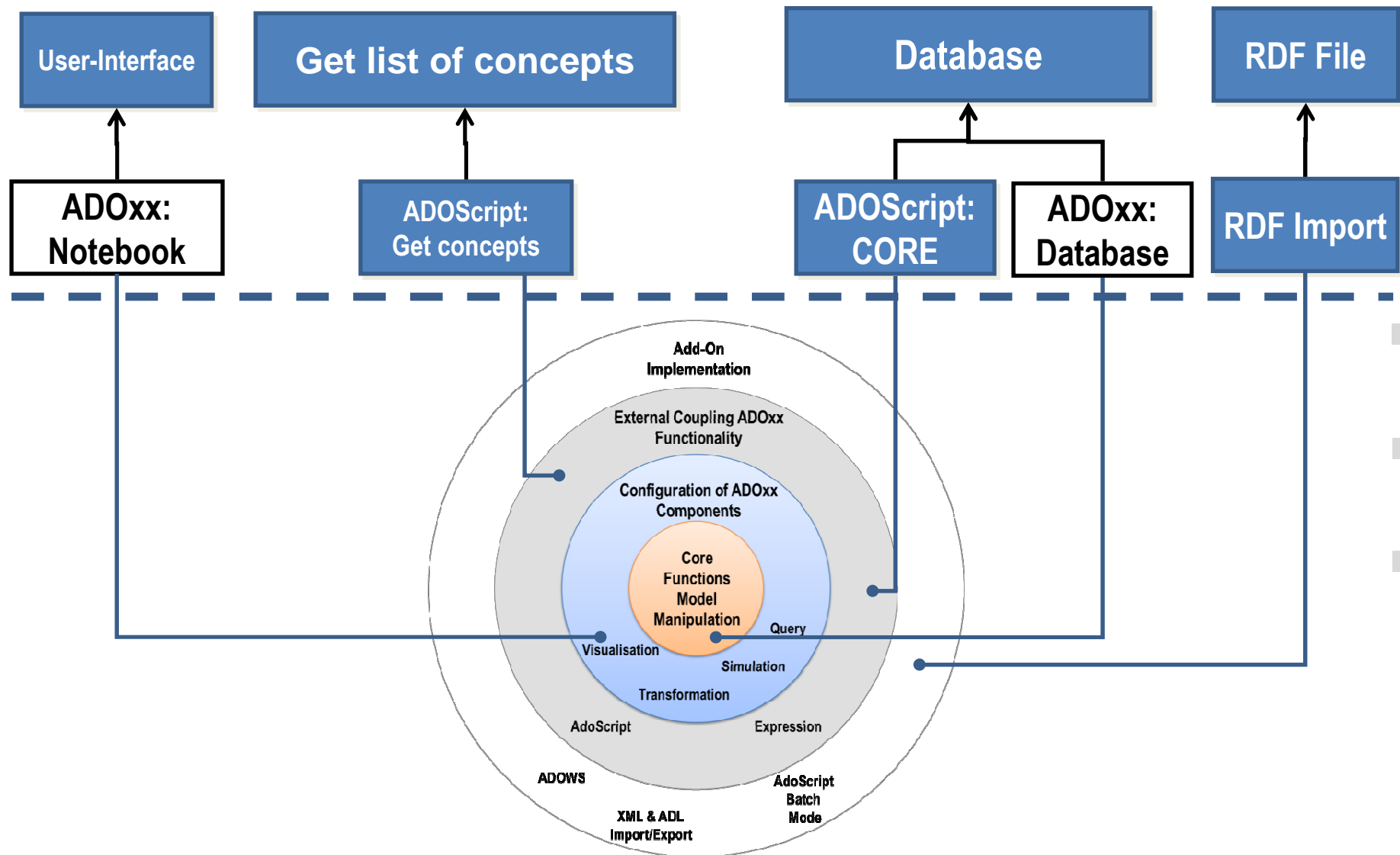
# ADOxx Functionality on Meta Level



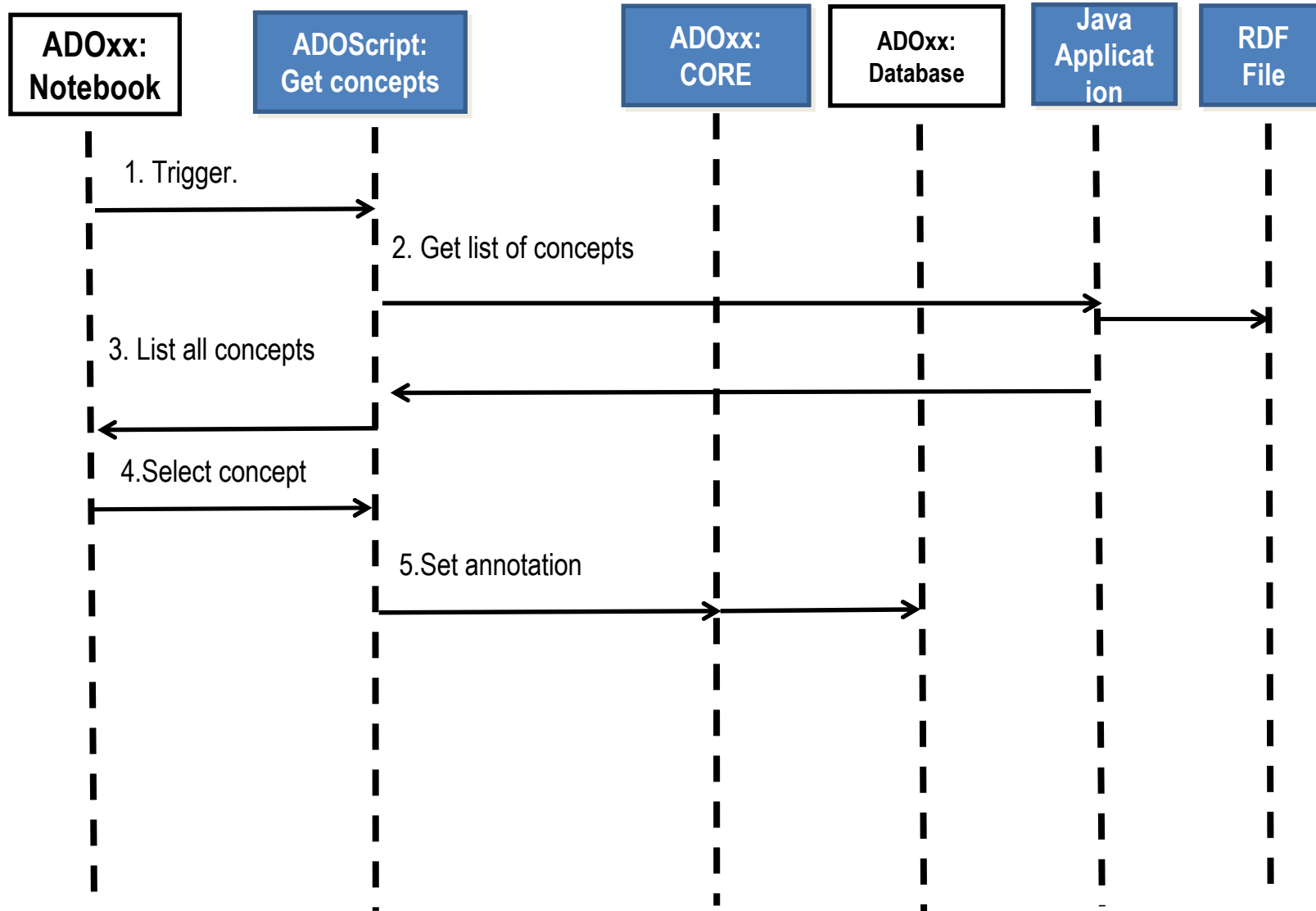
# Description of Algorithm



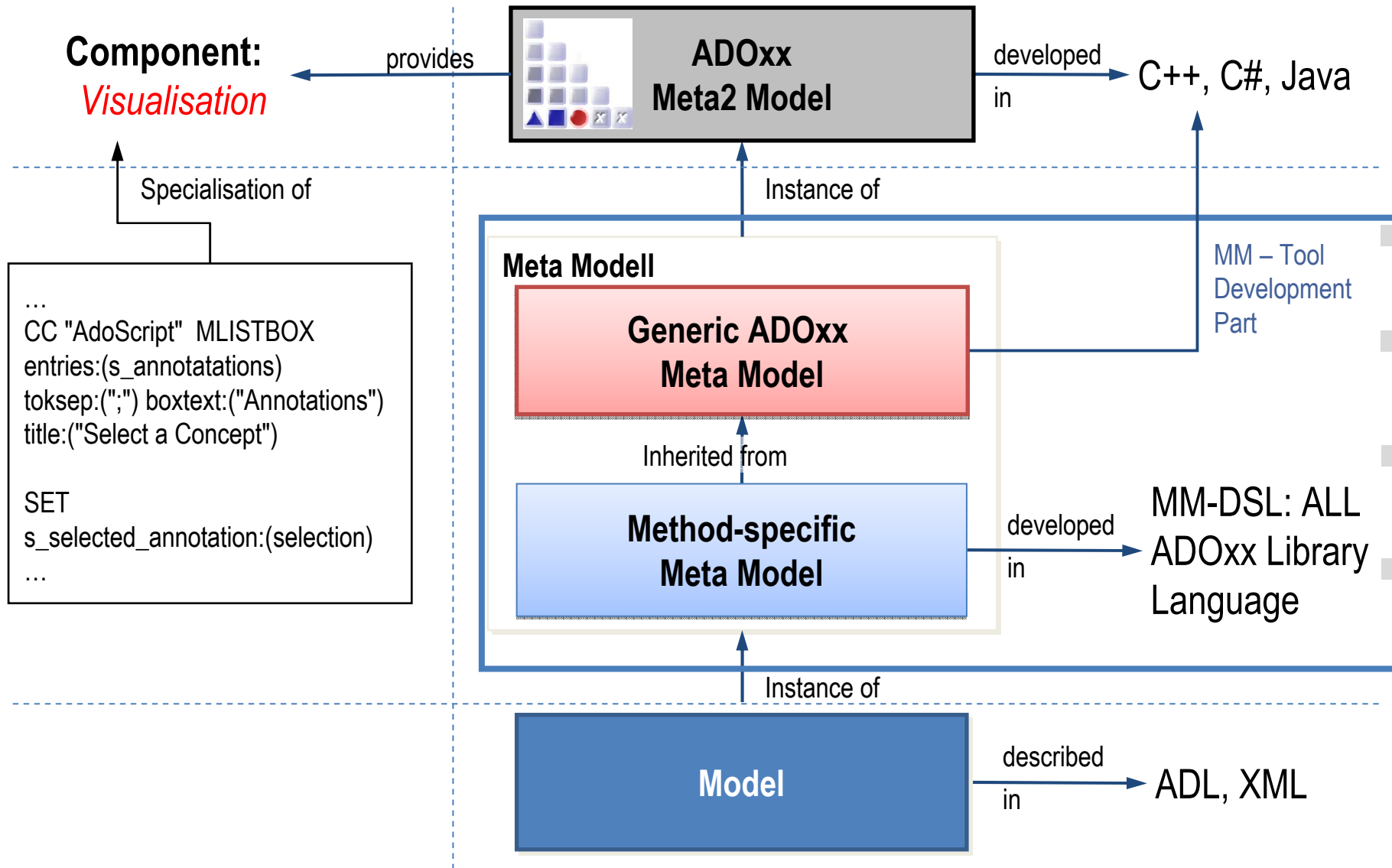
# Mapping ADOxx Functionality



# ADOxx Realisation Approach



# Meta Modelling Layer: Implementing and Algorithm



## Added Value of Metamodelling Platform

Used meta-modelling functionality for realisation of the scenario:

- **ADOScript:** ADOScript can retrieve model information, sends request to the API
- **ADOxx Visualisation Component:** is provided by the platform and enables configuration of the user interface of model editor
- **ADOScript:** Call Java application to retrieve and parse RDF file



# ADOxx Realisation Hands-On

## 1. Modelling Language

1. New attributes “Annotation” and “Set Annotation” for superclass \_\_D-construct\_\_
2. New chapter “Semantic Enrichment” in AttrRep for every class and relation to be annotated

## 2. Configure ADOxx





1. Set menu item for setting annotation service end point

## 3. Implement Algorithm with ADOscript

1. Retrieve list of concepts by invoking a Java application (in setAnnotationApp.asc)

# Used ADOxx Functionality: Implementing an Algorithm

Introduction	
Setup of Implementation Environment	
Modelling Language Implementation	
	Classes
	Relations
	Class Attributes and Attributes
	GRAPHREP
	ATTRREP
	CLASS Cardinality
	CONVERSION
	Model Pointer
	Attribute Facets
	Model Types

Mechanisms & Algorithms Implementation	
	<b>Core Functions for Model Manipulation</b>
	Database 
	<b>Visualisation</b>
	Query 
	<b>Transformation</b>
	Configuration of ADOxx Components
	Visualisation
	Query
	<b>External Coupling ADOxx Functionality</b> 
	<b>ADOscript Triggers</b>
	ADOscript Language Constructs
	Visualisation ADOscript
	Visualisation Expression
	Query ADOscript
	Transformation ADOscript 
	<b>ADD-ON Implementation</b>
	ADOxx Web-Service
	XML / ADL Import – Export
	ADOscriptBatch Mode

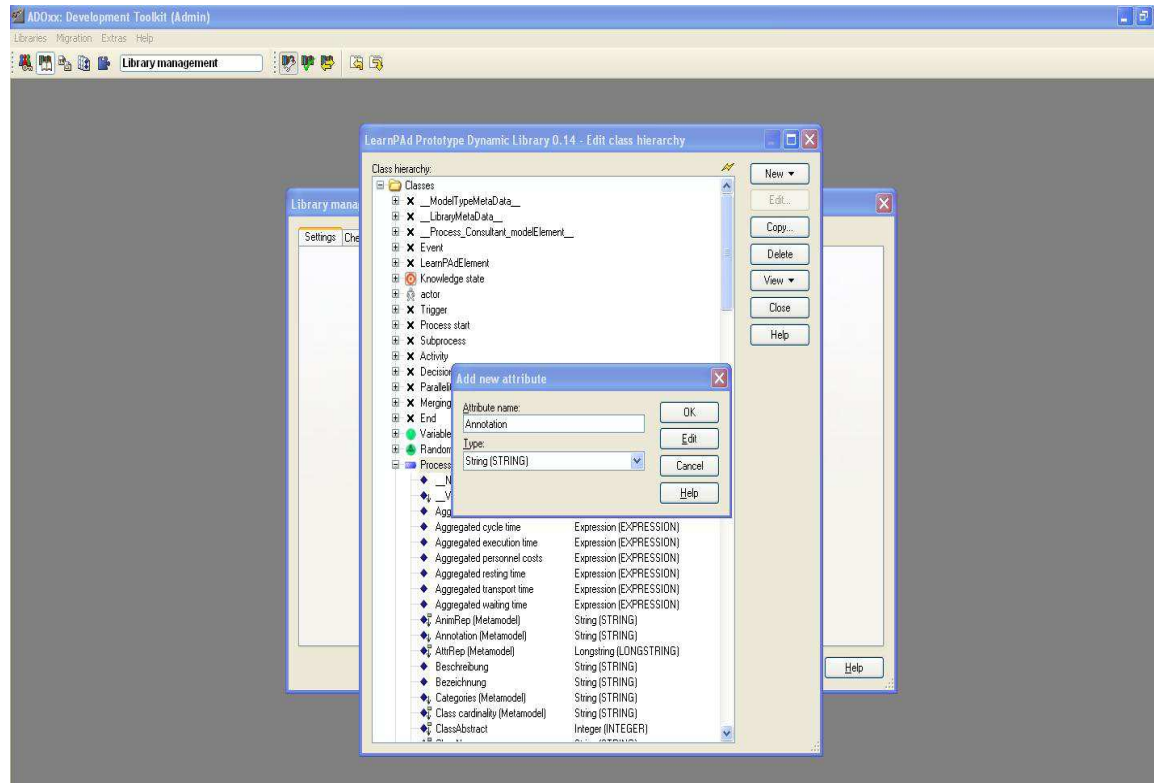
# HANDS-ON

Import list of concepts with Java application

**SCENARIO:**

**Invoking a Java application to read and parse an RDF file and deliver list of concepts**

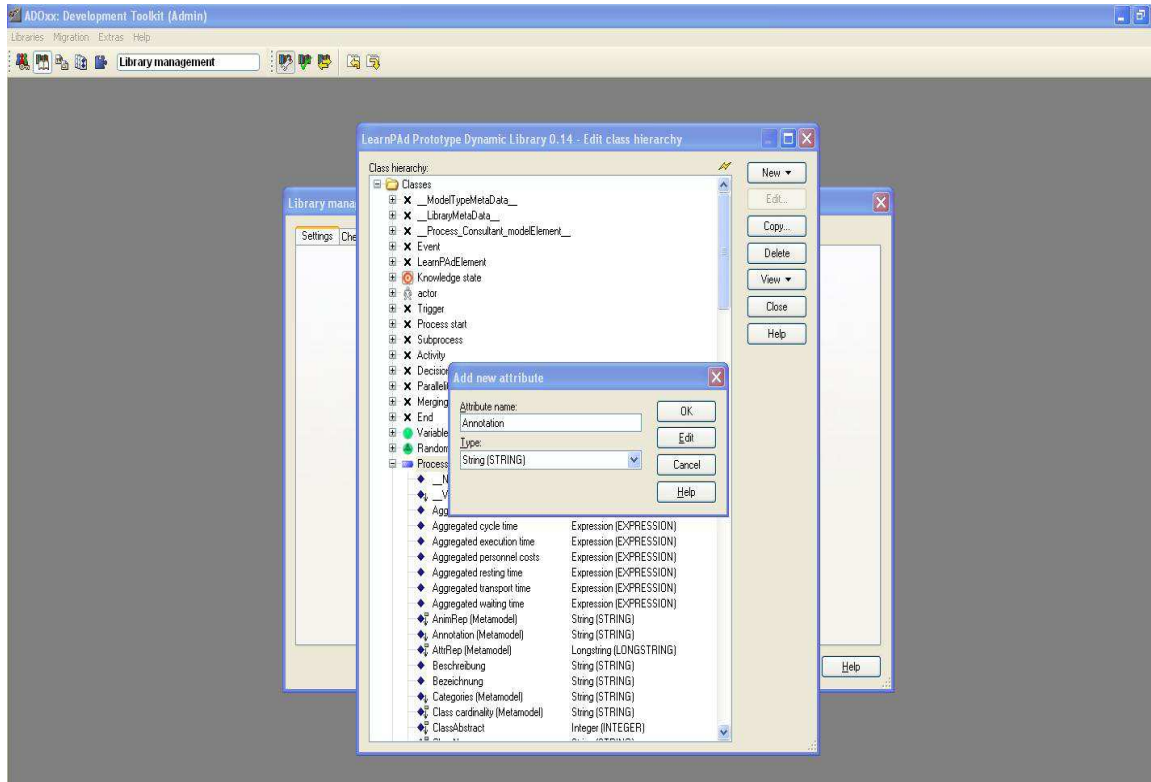
# Add attributes for \_\_D-construct\_\_



## Add New Attributes

- Select the LearnPAD library and open “Library attributes”.
- Open Class hierarchy
- For class \_\_D-construct\_\_ create two new attributes “Annotation” of type string and “Set Annotation” of type Programcall (see next slides)

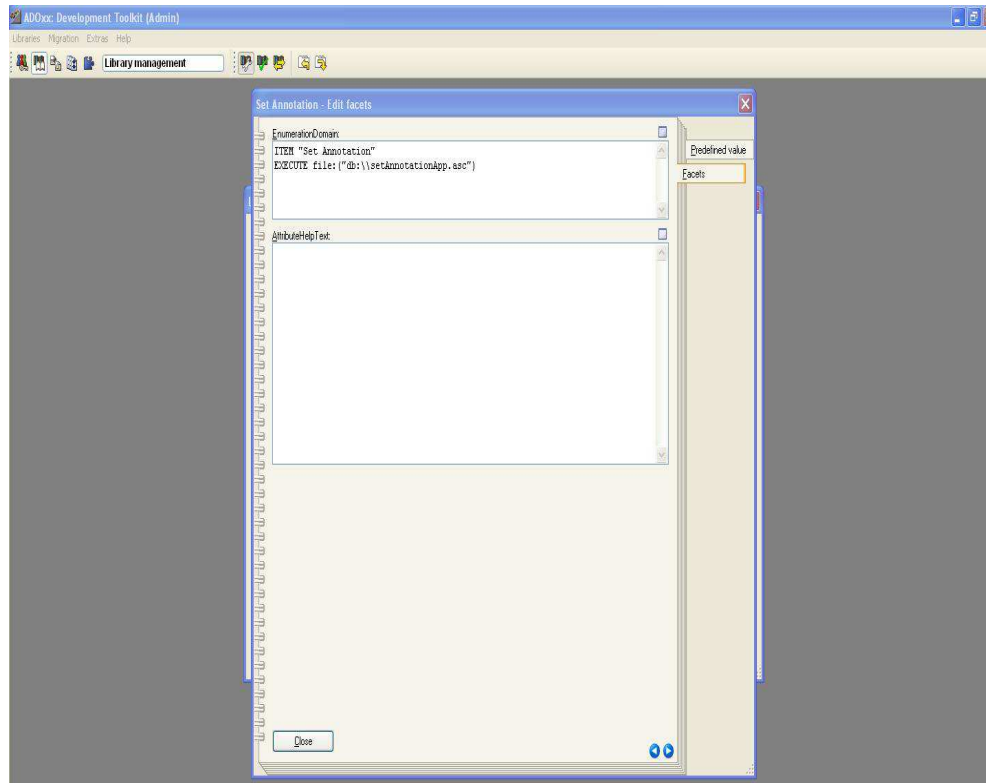
# Add Attributes for `__D-construct__`



## Add Attribute: Annotation

- Select class `__D-construct__` and click Newattribute.
- Create an attribute named “Annotation” of type STRING

# Add Attributes for \_\_D-construct\_\_



## Add Attribute: Set Annotation

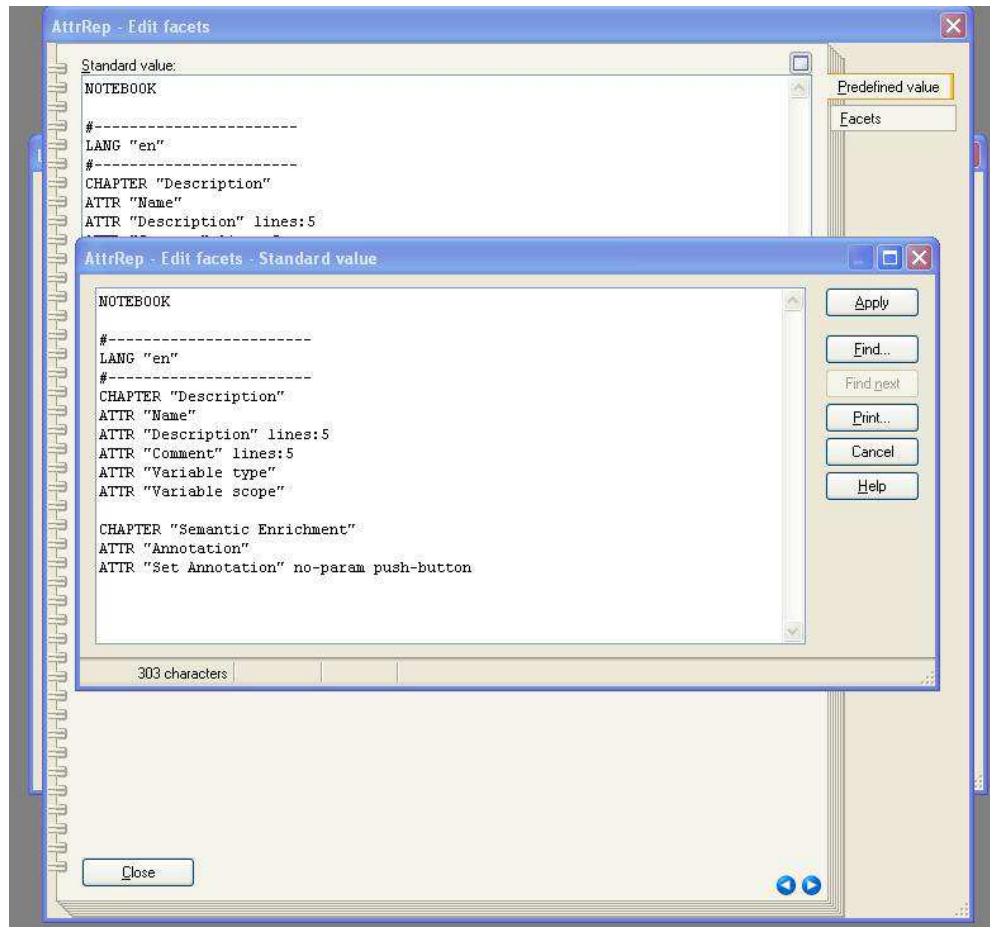
- Select class \_\_D-construct\_\_ and click Newattribute.
- Create an attribute named “Set Annotation” of type PROGRAMCALL
- Click on “Facets” and place the code

```
ITEM "Set Annotation"  
EXECUTE  
file:(\"db:\\setAnnotation.asc\")
```

in the field “EnumerationDomain”.

- Go back to the tab “Predefined value” and set the “Standard Value” to “Set Annotation”

# Add Chapter „Semantic Enrichment” for classes and relations



## Add Chapter to AttrRep:

- For each class and relation that is to have an annotation, select the attribute AttrRep
- Edit the AttrRep to add the following code at the end:

```
CHAPTER "Semantic Enrichment"
ATTR "Annotation"
ATTR "Set Annotation" no-param
push-button
```

# Implement and Import ADOscript File into Database

## setAnnotationApp.asc

```
SET sTempAPIResultsFile:("AnnotationApp_results.txt")
```

```
CC "AdoScript" FILE_DIALOG open  
filter1:"XML Files" type1:"*.xml" default-ext:".xml"  
SET sFile:(path)
```

```
SYSTEM ("cmd /c java -jar tools\\AnnotationApplication.jar "+sFile+" "+sTempAPIResultsFile)
```

```
CC "Modeling" GET_ACT_MODEL  
CC "Modeling" GET_SELECTED modelid: (modelid)
```

```
SET s_selected_objid: (objids)
```

```
CC "AdoScript" FREAD file:(sTempAPIResultsFile) binary:0 base64:0  
SET s_annotatations:(text)
```

```
CC "AdoScript" MLISTBOX entries:(s_annotatations) toksep:(";") boxtext:("Annotations") title:("Select an Concept")
```

```
IF (endbutton = "ok")
```

```
{
```

```
    SET s_selected_annotation:(selection)
```

```
    CC "Core" SET_ATTR_VAL objid:(VAL s_selected_objid) attrname:"Annotation" val:(s_selected_annotation)
```

```
}
```

```
ELSE
```

```
{
```

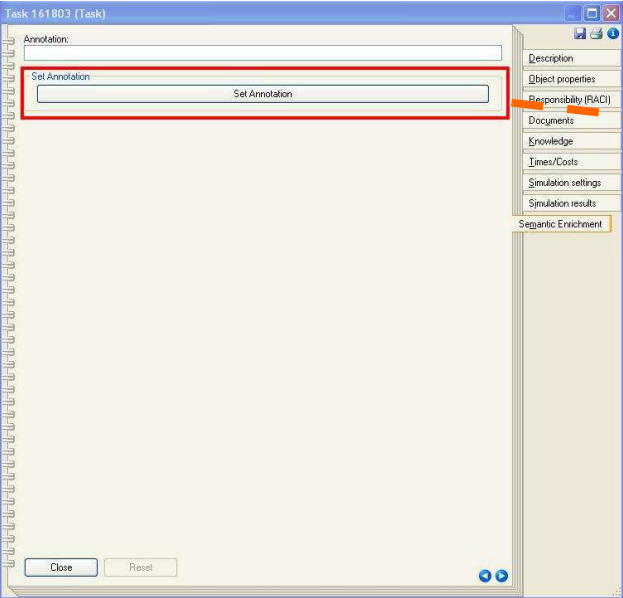
```
    CC "AdoScript" INFOBOX "Annotation could not be set successfully"
```

```
}
```



# Results

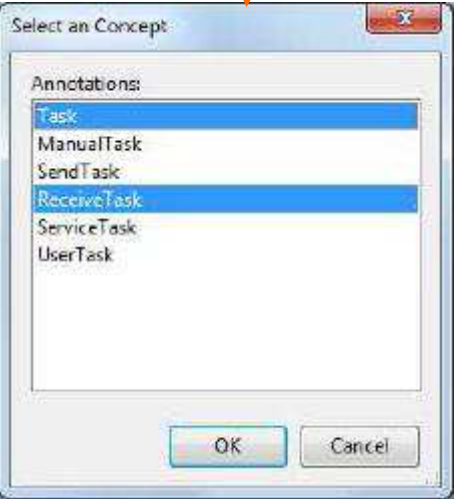
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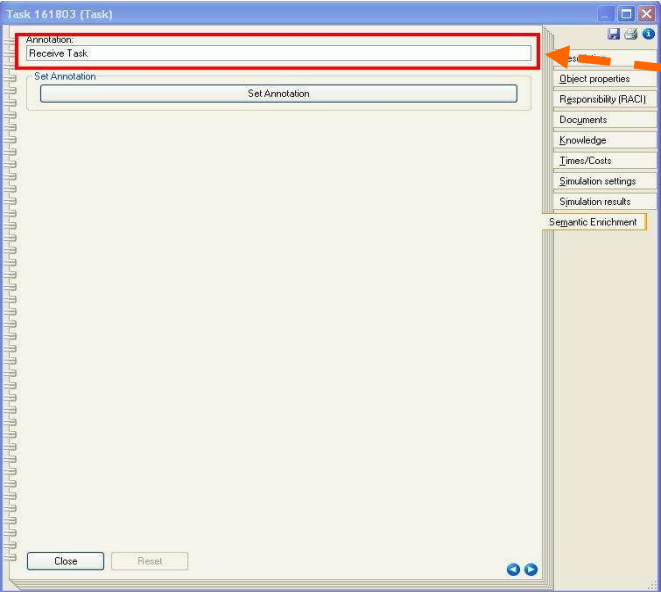
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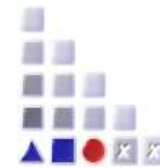
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# Further Questions?



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