

# Composite Document Generation

- CD9 -



## *User Guide – V1*

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### BPA Delivery 7 for V5R19 (V5.7)

# Modification Tracking

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Version	Date	Done by	Modification
	15 Sep 2008	NJZ	Document creation
D6W42.3	15 Oct 2008	NJZ/CBZ	Document verification
D6W5.3			Add Composite Document general behavior paragraph. Precision about Resize Auto and Landscape Allowed options and screenshot updated.
	29 Jan 2009	NJZ/CBZ	Note added concerning selected template.
D7W22.3	18 May 2009	CBZ	Update screenshots for Office 2007 and Advanced Query RTF

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# 1. Introduction

This document describes the user guide for the BPA Composite Document Generation.

This document is divided into the following sections:

- Composite Document Generation overview
- Composite Document Generation Query Builder Wizard
- Composite Document Generation Generating a Composite Document in SmarTeam
- Composite Document Generation Defining a Word Template

## 1.1. *Scope and purpose*

Composite document is used to generate any data in a word document. The data comes from linked Objects as specified in Composite Document Queries.

Composite Document generation can be organized in three use cases:

- **Query Definition:** The user creates Composite Document Queries by defining, in SmarTeam the Queries and the data to export.
- **Template definition:** The user edits a template document where he specifies the CSE Data he wants by calling specific Composite Document Queries previously defined in SmarTeam.
- **Document generation:** From Smarteam, the user asks the generation of a Composite Document Report on a given CSE object (a function, a folder, a project ...) or on a Template.

The core of the solution is the idea that a composite document is a path inside the CSE Data model.

The composite document starts at one point (for instance a Function F). Then, it follows links (hierarchical or logical) to get to related objects and export their content.

To define this path in the CSE data model, a specific Query definition tool is defined. It is in wizard like form and guides the user in the definition of his Query. The Query can then either be called directly from SmarTeam, from the root object, or called in a word template document. This will generate a document in Microsoft Word format.

### Scope

- **Goal :** Generate a Document/Report from **any** data inside **SmarTeam**
- **Coverage:** All objects inside SmarTeam (all attributes of Objects) and all attached files can be exported in one coherent document.
- **Mean:** Define Document Queries in SmarTeam
  - **The What:** Which objects → Classes and links and files
  - **The When:** The objects are filtered by conditions (only Checked-In documents, only my requirements, ...)
  - **The How:** this attribute in Bold, this one centered
- **Usage:** Use the predefined Queries to recurrently output on-going reports, state of work, issue reports, coverage status, etc....

### Value

- **Fully Configurable**
  - Automatic Systems Documentation Report.
  - Multi format object (word, ppt, excel, visio, meta-data...).
  - Configurable point of view.

- Configurable document format/template.
- **User-friendly**
  - Wizards help the user step by step.
  - Only possible choices are proposed to the user.
  - Interactive/immediate document generation.
- **Essential core functionality**
  - On-going work Reporting → know where you are, know what has been done
  - Dynamically generated → exact real time status
  - User specific → export what you need to know and only that
  - Define exactly the Reports You need → One Report for each meeting, each Issue, each user.

## 1.2. *Related Documentation*

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There documents give complementary useful information for daily use of the BPA.

- Collaborative Systems Engineering – License Use Management (CSE\_licenseUseManagement\_R19D7.doc)
- Collaborative Systems Engineering – Data Model Documentation (CSE\_DataModel\_Documentation\_R19D7.doc)
- Collaborative Systems Engineering – Requirement Management Implementation guide (RM9\_ImplementationGuide\_R19D7.doc)
- ENOVIA SmarTeam – V5R19 Hardware and Software Requirements
- ENOVIA SmarTeam - Editor Installation Guide
- ENOVIA SmarTeam - Editor Administrator Guide
- ENOVIA SmarTeam - Editor User Guide
- ENOVIA SmarTeam - Foundation Installation Guide
- ENOVIA SmarTeam - Foundation Administrator Guide
- ENOVIA SmarTeam - Foundation User Guide

## 1.3. *Definitions*

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### 1.3.1. *Glossary*

Acronym	Definition
BPA	Business Process Accelerator
PDIR	Program Directory
CSE	Collaborative System Engineering

*Table 1 - Acronyms*



### 1.3.2. Pictograms

#### 'CSE Browser' Toolbar








Symbol	Usage
	Query tree in SmarTeam
	Add query in Word document Add-In
	Update query in Word document Add-In
	Delete query in Word document Add-In
	Generate document in Word document Add-In

Table 2 - Pictograms

## 2. Composite Document Generation overview

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### 2.1. *Functional overview*

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The Composite Document Generation tool allows you to create Word documents from any Data inside CSE. First we will describe the process to follow, then the concept of query builder and then we will go through an example.

### 2.2. *Processes and rules*

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#### 2.2.1. *Composite Document Generation concepts presentation*

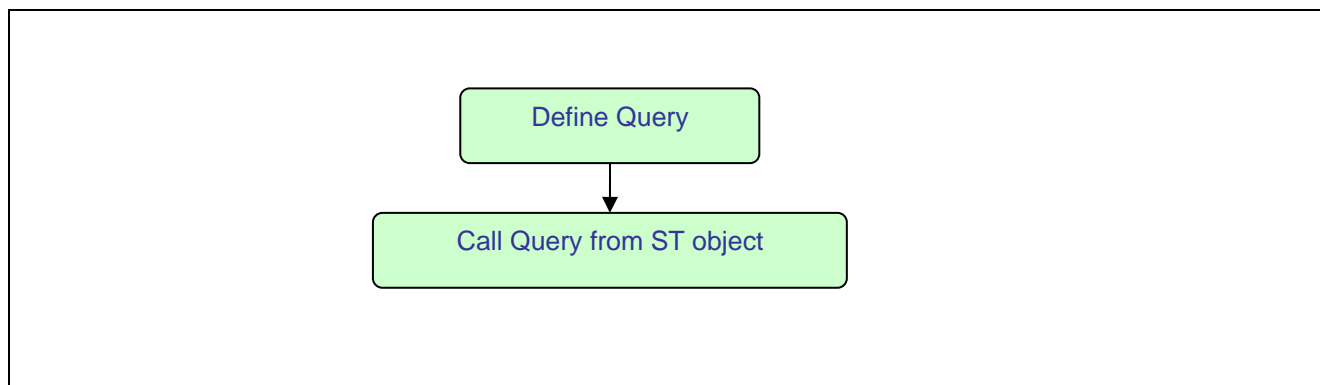
To define a report using Composite Document Generation, you need to decide what data you want to export. You then create a Document Query that describes what data you want.

To Define a Query:

1. Create the Root Query
  - a. Select the root Class
  - b. Select the query type (basic or advanced)
  - c. Define filter for objects
  - d. Define attributes to export and template to be used
  - e. Define format
2. Create one or more Link Queries from the Root
  - a. From the Root define the linked Class
  - b. Select the query type (basic or advanced)
  - c. Define the type of Link (Logical, Hierarchic, Recursive, Hierarchical reverse, Hierarchical reverse recursive)
  - d. Define filter for Linked objects
  - e. Define attributes to export and template to be used
  - f. Define format

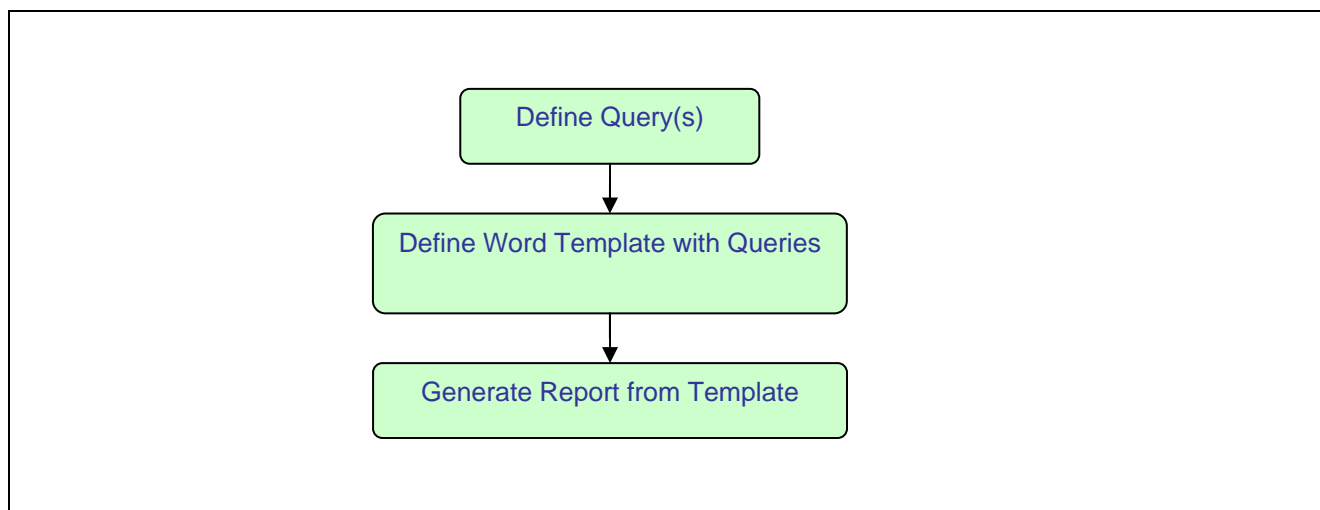
Once queries are defined you can use them in two different ways.

In one hand, you can generate a report directly from SmarTeam client editor.



*Figure 1: Generating a Report from SmarTeam*

In the other hand, you can go inside Word, and there define a Report Template. This template is a Word document containing calls to Composite Document Queries as defined previously. You can have as many calls as you want in the template. You then can generate a Report from this template. Composite document will replace each call by the results of the Query.



*Figure 2: Generating a Report from Word*

Finally, you obtain the following Use Cases that will be described in this User Guide.

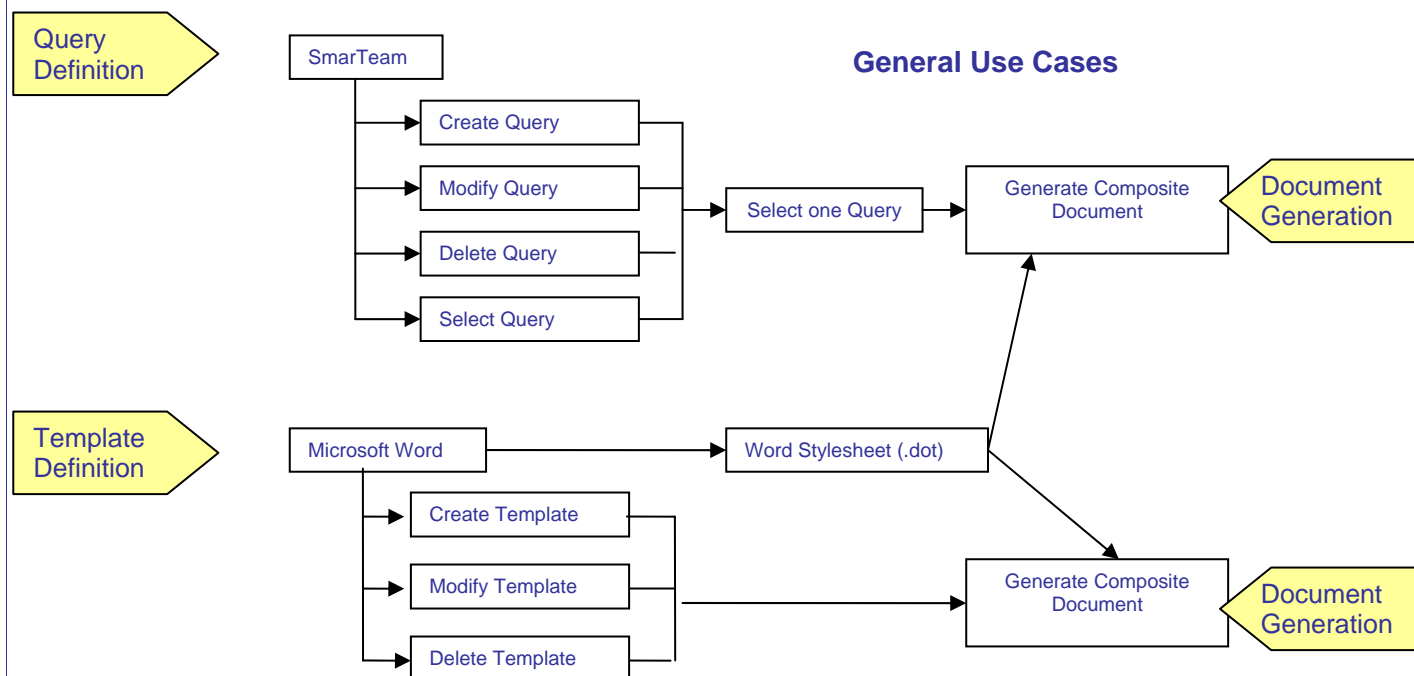


Figure 3: Composite Document Generation Use Cases

Once a certain number of Queries are defined inside SmarTeam, they can be used as needed by the users and administrators. A set of Templates can for example be defined for the different types of users: “My checked-out documents”, “Allocated Functions and related Tests of this Requirement Module”, “Last modified Parts”, ...

These templates can then be used to generate dynamically Reports of the exact status of work inside SmarTeam. This can be done on a regular basis, or before each meeting, change commission, etc.

Individual users can define there own queries and templates to generate reports containing the exact point of view necessary for their daily work.

### 2.2.2. Composite Document Generation typical process

To define a composite document, the user has to define a starting point to the document (a documents folder, a requirements module, a set of functions of a system, a specific sub-system ...) and then describe what information he wants to export (query roots attributes and links to follow). The starting point is called a “Document Query Root” and the path is described by following links from this Root, each link followed is called a “Document Query Link”.

A Document Query is therefore composed of a “Query root” and one or several “Query Links” organized in a tree.

To define a Document Query for an export, the user is guided by a Query Builder Wizard that helps define Query Nodes (The Root and the Links)

In the Query Builder Wizard there are five steps to build a Query root, six steps to build a Query Link, and three steps to update a Query root or a Query Link.

Here is a summary:

	Select type	Select	Select query type	Select	Select attributes & template	Select style for attributes
Add a		1	2	3	4	5
Update a Query root				1	2	3
Add a Query link	1	2	3	4	5	6
Update a Query link				1	2	3

The number in the table is the number of the step. If there is no number, the step is not included in the process.

### **2.2.3. Composite Document Generation general behavior**

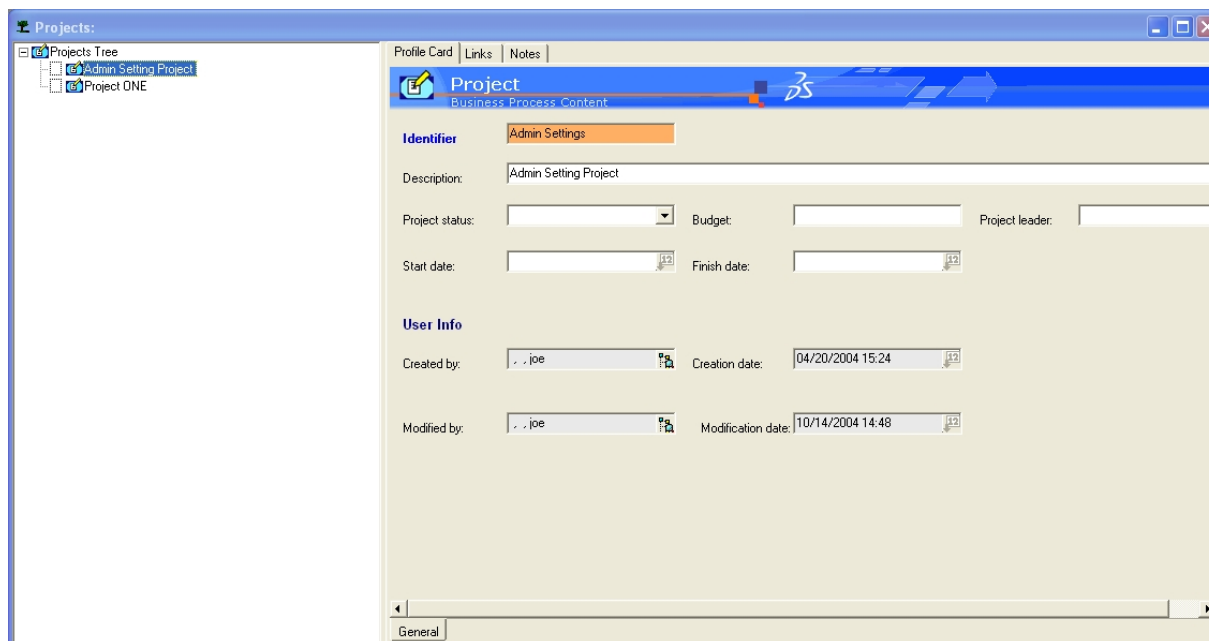
“Query link” queries are performed from objects retrieve by parent query. If no object has been retrieved by the parent, children “query link” are not executed. Sub children “query link” are not executed too.

At “query link” creation, when the query saved if no attribute is selected, a warning is raised but save is allowed.

## 3. User Interface presentation

### 3.1. The query tree

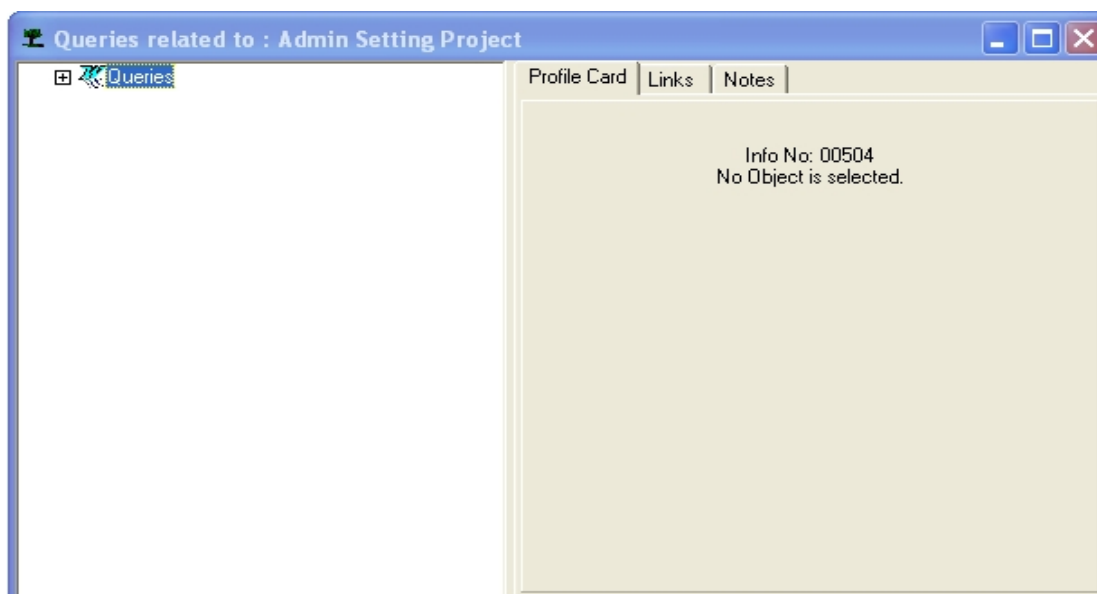
When you open Smarteam,



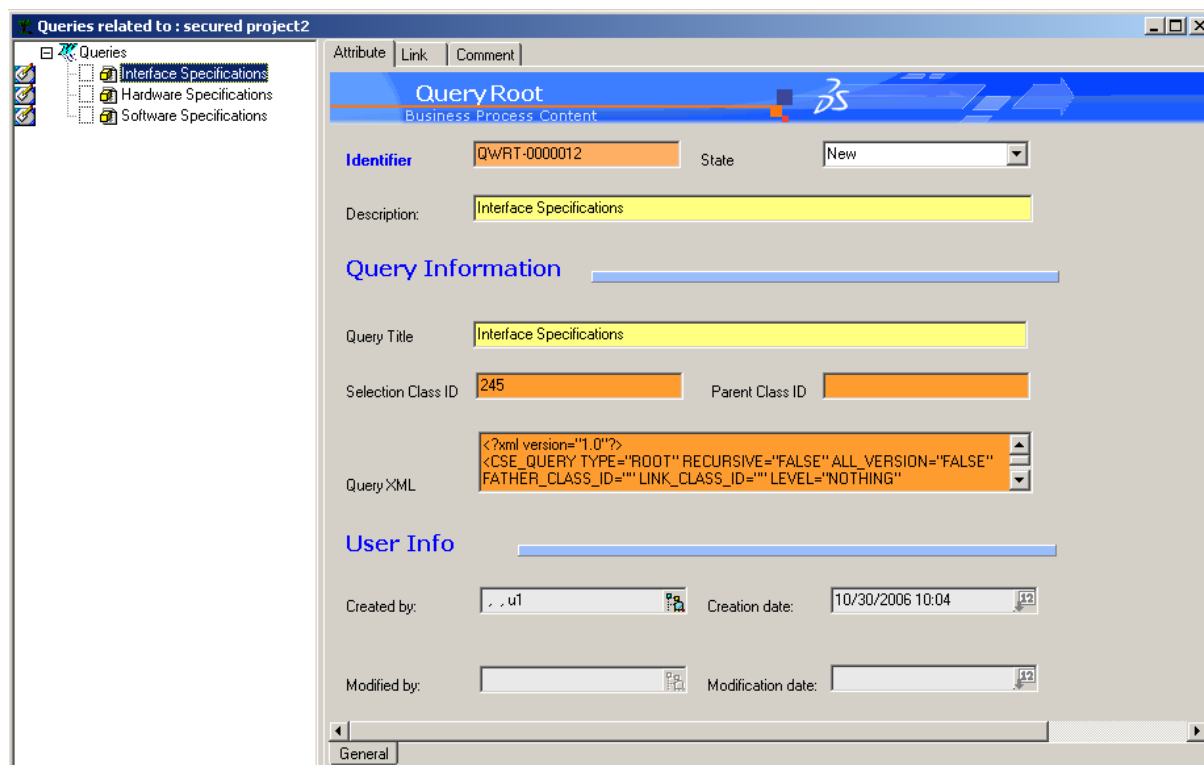
click on the Queries icon



The Query Tree opens.



If there are some queries already defined, the window appears with its queries.



**Queries related to : secured project2**

Queries

- Interface Specifications
- Hardware Specifications
- Software Specifications

Attribute | Link | Comment

**QueryRoot**  
Business Process Content

Identifier: QWRT-0000012 State: New

Description: Interface Specifications

**Query Information**

Query Title: Interface Specifications

Selection Class ID: 245 Parent Class ID:

Query XML:

```
<?xml version="1.0"?>
<CSE_QUERY TYPE="ROOT" RECURSIVE="FALSE" ALL_VERSION="FALSE"
FATHER_CLASS_ID="" LINK_CLASS_ID="" LEVEL="NOTHING">
```

**User Info**

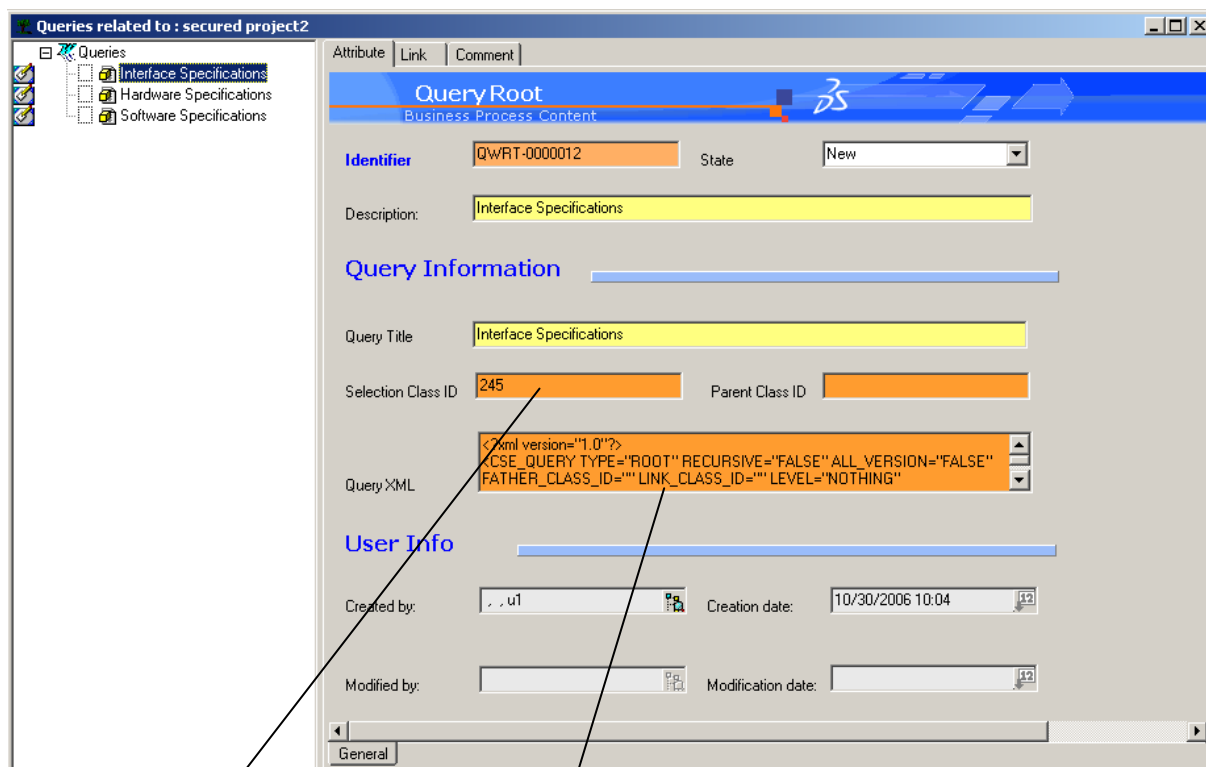
Created by: . u1 Creation date: 10/30/2006 10:04

Modified by: Modification date:

General

A Document Report Query always starts with a Root Query.  
From a root you can add only Query Links.

## 3.2. Query root profile card



Queries related to : secured project2

Attribute | Link | Comment

**Query Root**  
Business Process Content

Identifier: QWRT-0000012 State: New

Description: Interface Specifications

**Query Information**

Query Title: Interface Specifications

Selection Class ID: 245 Parent Class ID:

Query XML: 

```
<?xml version="1.0"?>
<CSE_QUERY TYPE="ROOT" RECURSIVE="FALSE" ALL_VERSION="FALSE"
FATHER_CLASS_ID="" LINK_CLASS_ID="" LEVEL="NOTHING">
```

**User Info**

Created by: u1 Creation date: 10/30/2006 10:04

Modified by: Modification date:

General

Class ID of the  
class selected  
by the user

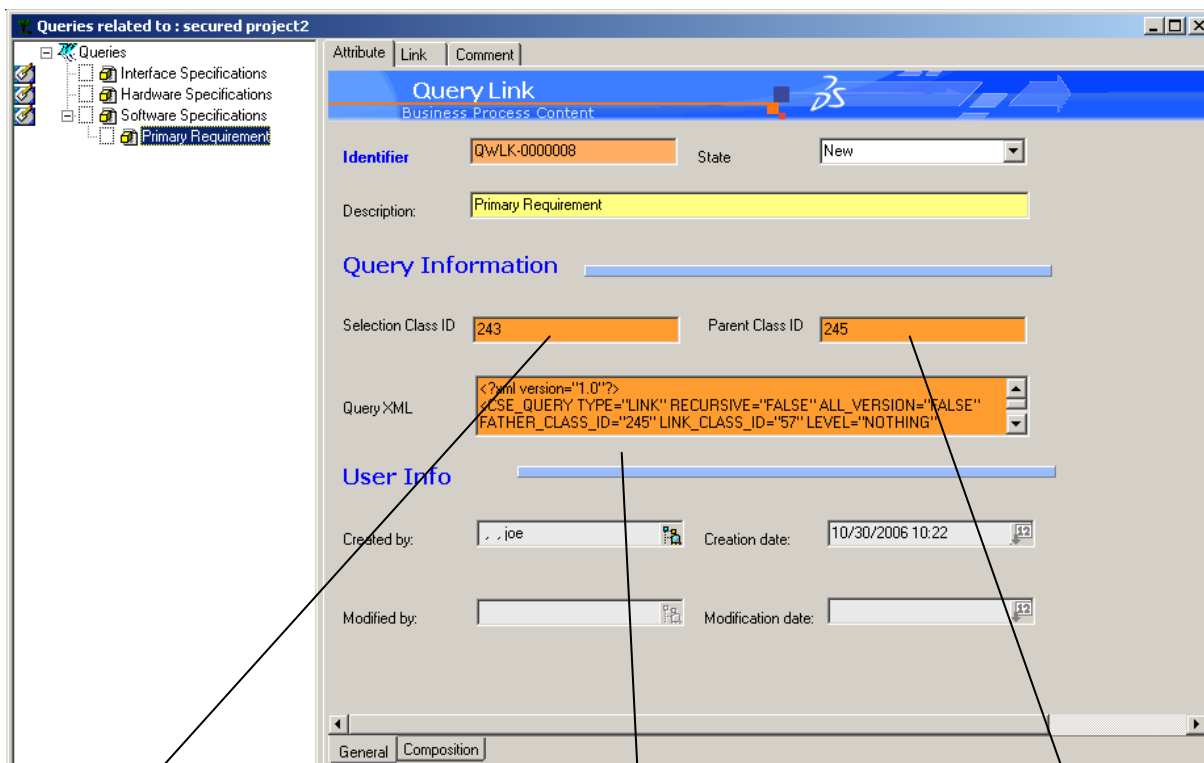
Definition of the  
Query Root saved  
in XML

The "Query Title" is important; it will be displayed to the user to choose a report for generating a Composite Document.

By default, the description is the class of the Root Query selected by the user in the Query builder wizard.



### 3.3. Query Link profile card



Class ID of the linked class selected by the user

Definition of the Query Root saved in XML

Class ID of the Parent Class selected by the user

By default, the description is the class selected by the user in the Query builder wizard.

## 4. Composite Document Generation Query Builder Wizard

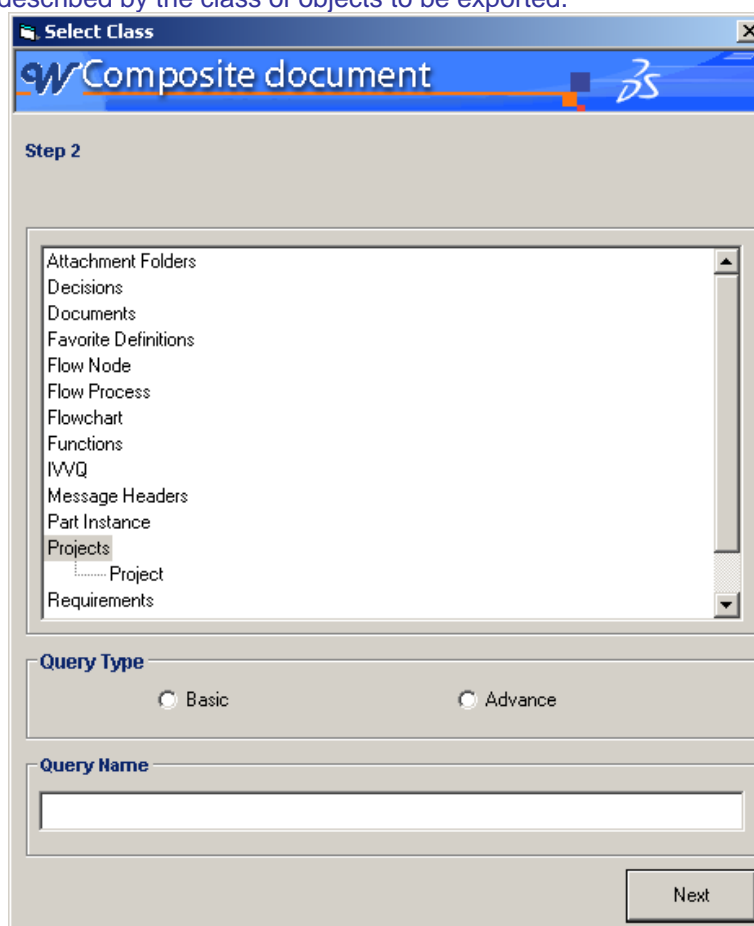
We will now describe each step of the Wizard.

### 4.1. Query root builder wizard

#### 4.1.1. Function description

##### 4.1.1.1. Select Class

A Query Node is first described by the class of objects to be exported.



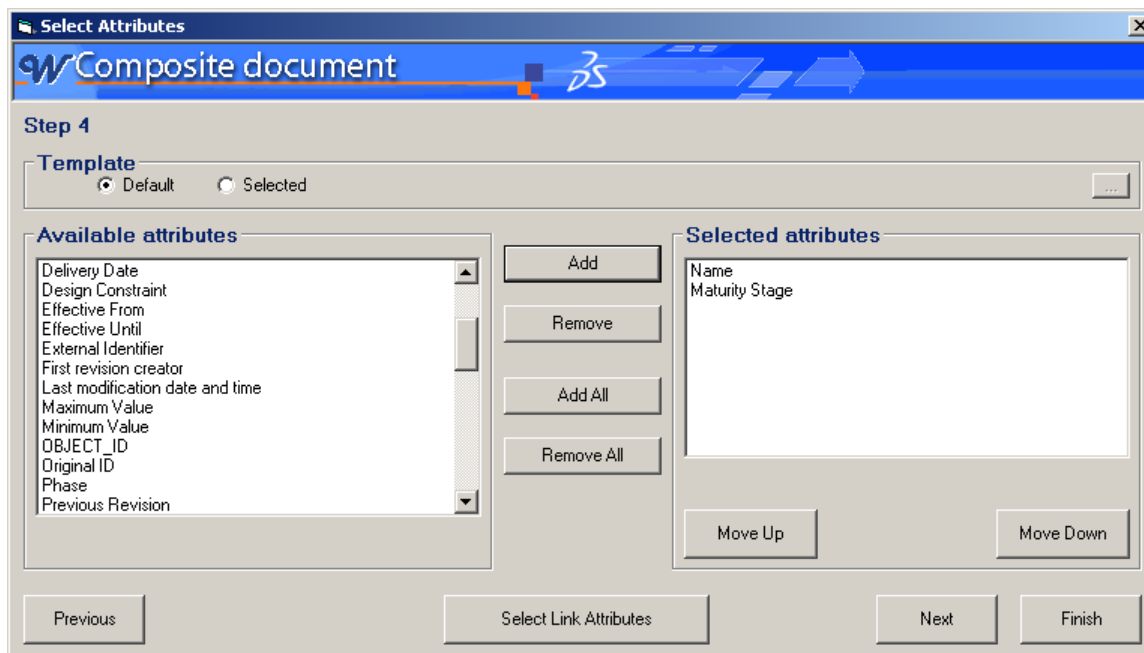
In this step you choose the class of the objects to export. By default the list proposes all super classes authorized. When you select a super class all child classes appear. You can select either a super class or a sub class.

The style type allows switching from the basic query builder (former query builder) to the advanced one. That mode makes you able to use more style and formatting capabilities.

The *Query name* is required. It is used to name the query when you want to generate a composite document. It is stored in the "Query Title" attribute.

### 4.1.1.2. Select attributes

Whatever the query type you selected during the previous step, you will get the following window popping up. In the left part you will find all the available attributes for the objects class that you have selected. You just have to pick them and press 'Add' button in order to export them.



It is possible to export as many attributes as you wish.

To select several attributes at once:

-  key control to select another attribute which is not next to the first,
-  key shift to select neighbor attributes of the already selected one.

It's possible to reorder the attributes with the "Move up" or "Move down" buttons. The order specified will be the order in which the attributes will be exported in the document.


The attribute LINKED\_FILE enables to export the document referenced by the object. It is available for all classes that are file controlled.

It is possible to position the LINKED\_FILE anywhere in the export using the order.

At the top of the window, you select the Word template to be used. Two choices are available:

- 'Default' means that you want to use the default Composite template (CompositeDocGeneration.dot) provided with the installation setup and located at C:\Program Files\Microsoft Office\Office12\STARTUP\CompositeDocGeneration.dot.

In 'Default' case, the text box on right of 'Selected' is not shown.

- 'Selected' means that you want to use a template stored within the documents tree. The first time you choose the 'Selected' option, and any time you press this button , you will launch a query that fetches all the Word template files (\*.dot extension). Then you need to select the one you want to use.

In 'Selected' case, the text box on right of 'Selected' contains the name and the version of the selected template.

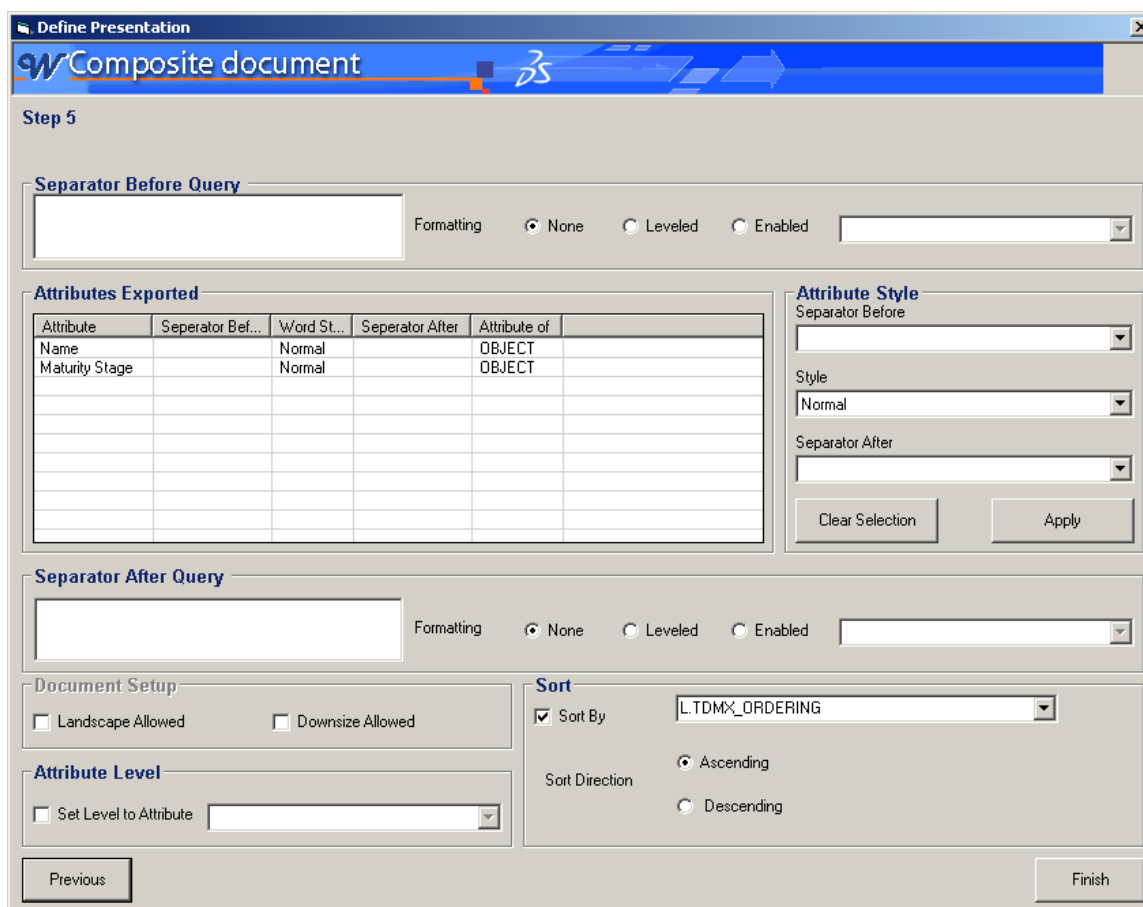
Note: The query done to find all the templates in the Smarteam CSE database, is based on the file extension (\*.dot) and the lifecycle status. Only 'Checked In' or 'Released' objects will be selected. It is not advised to use the default template (CompositeDocGeneration.dot) as selected template, side effect can be encountered.

### 4.1.1.3. Select Word style for attributes

This step allows defining the style for each attribute exported. Depending on your previous choice, you will get different windows.

#### 4.1.1.3.1. Basic mode

When you select the basic mode you will find the 'common' user interface with the capability to define two new separators (before and after the query root) with a specific style and formatting.



**Define Presentation**  
Composite document

Step 5

**Separator Before Query**

Formatting: ☒ None ☐ Leveled ☐ Enabled

**Attributes Exported**

Attribute	Separator Bef...	Word St...	Separator After	Attribute of
Name		Normal		OBJECT
Maturity Stage		Normal		OBJECT

**Attribute Style**

Separator Before:

Style:

Separator After:

Clear Selection Apply

**Separator After Query**

Formatting: ☒ None ☐ Leveled ☐ Enabled

**Document Setup**

☐ Landscape Allowed ☐ Downsize Allowed

**Attribute Level**

☐ Set Level to Attribute

**Sort**

☒ Sort By

Sort Direction: ☒ Ascending ☐ Descending

Previous Finish

The 'Attributes Exported' zone gathers all the selected attributes. Once you selected an attribute in the list, you need to select a 'Separator Before Query', a 'Style' and a 'Separator After Query' in the 'Attribute style' zone and to press to 'Apply' button.

Note: The Word Style lookup table is not used anymore.

The styles available in that zone are those defined in the default template or in the one you selected. More over the following elements are available for the 'Separator before' and 'Separator after' lists:

- New Line
- NextPageSessionBreak
- PageBreak
- Space
- Tab

Those lists can not be changed but you can write down anything instead of those values.

The 'Separator Before Query' zone allows defining a prefix to your query root and to add a formatting using radio buttons 'leveled' or 'enabled'. The 'enabled' option allows you applying a style to your separator. That style needs to be defined into your Word template.

The 'leveled' option allows you applying a style depending on the level of your object in the data set. Let say the element before your separator is defined with a 'heading 2' style, your separator will be set to 'heading 3' style.

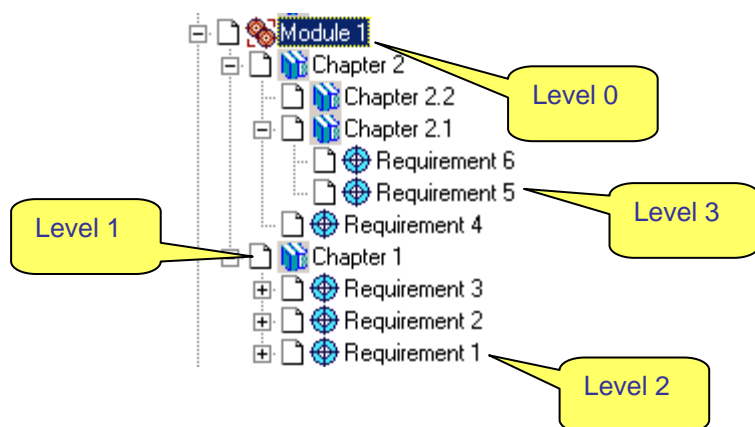
The 'Separator After Query' zone is fully similar.

The 'Sort' zone allows defining an attribute as a reference for sorting exported objects.

Note: a link attribute is prefixed with "L.", and a class attribute is prefixed with "S."

The 'Sort direction' option allows you to choose an ascending or descending sorting.

The 'Attribute level' zone allows defining a level in a tree when exporting **hierarchic recursive** linked objects. For instance, when exporting a Requirement Tree as below:



If you set the level to an attribute, such as "Name", then the right Heading linked to the level will be given to that attribute in Word:

Module 1 will be exported as *Heading1*, Chapter 1 will be exported as *Heading2*, Requirement 1 as Heading 3, ...

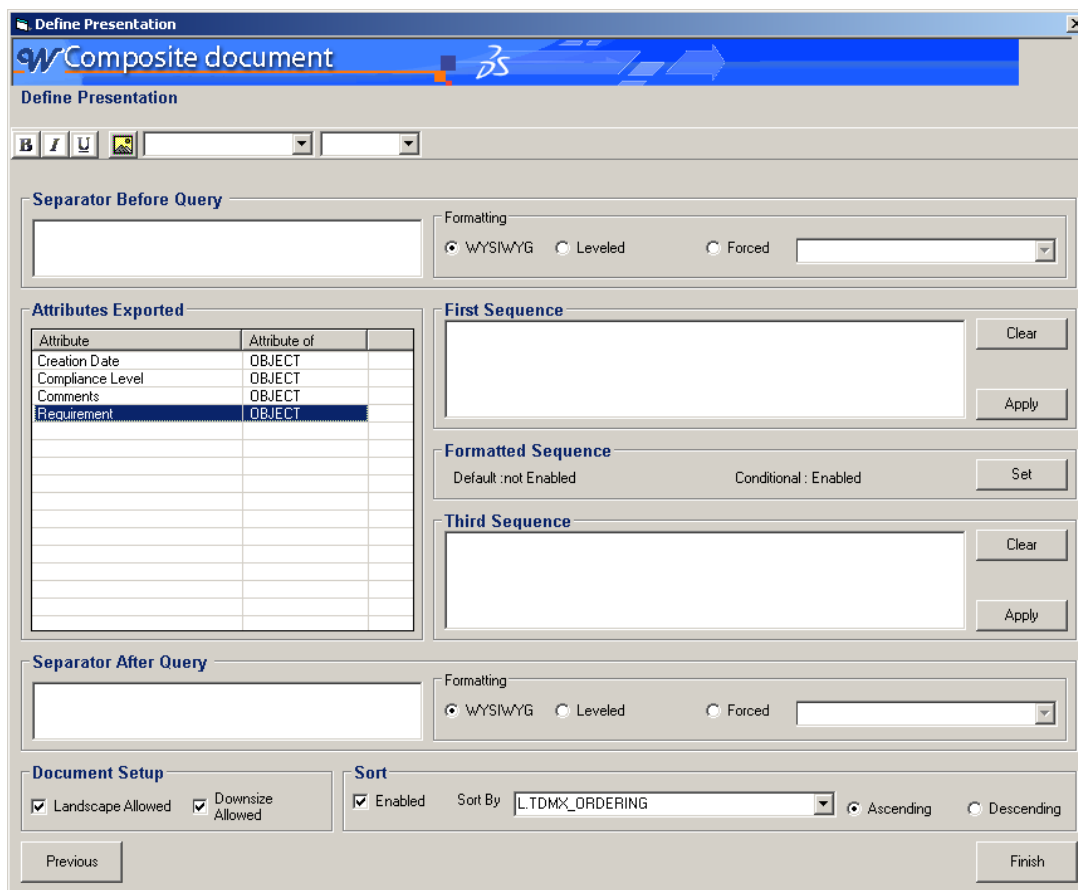
The 'Document setup' zone is available only when 'LINKED\_FILE' attribute is selected. The 'Landscape Allowed' mode switch from portrait mode to landscape one in order to get the best fit between the content of the linked file and the file current format.

The 'Downsize Allowed' option allows pictures or tables downsizing in order to fit the current page.

If landscape is also selected, the picture is downsized only if bigger than landscape format.

### 4.1.1.3.2. Advanced mode

When you select the advanced mode, you will find the following window.



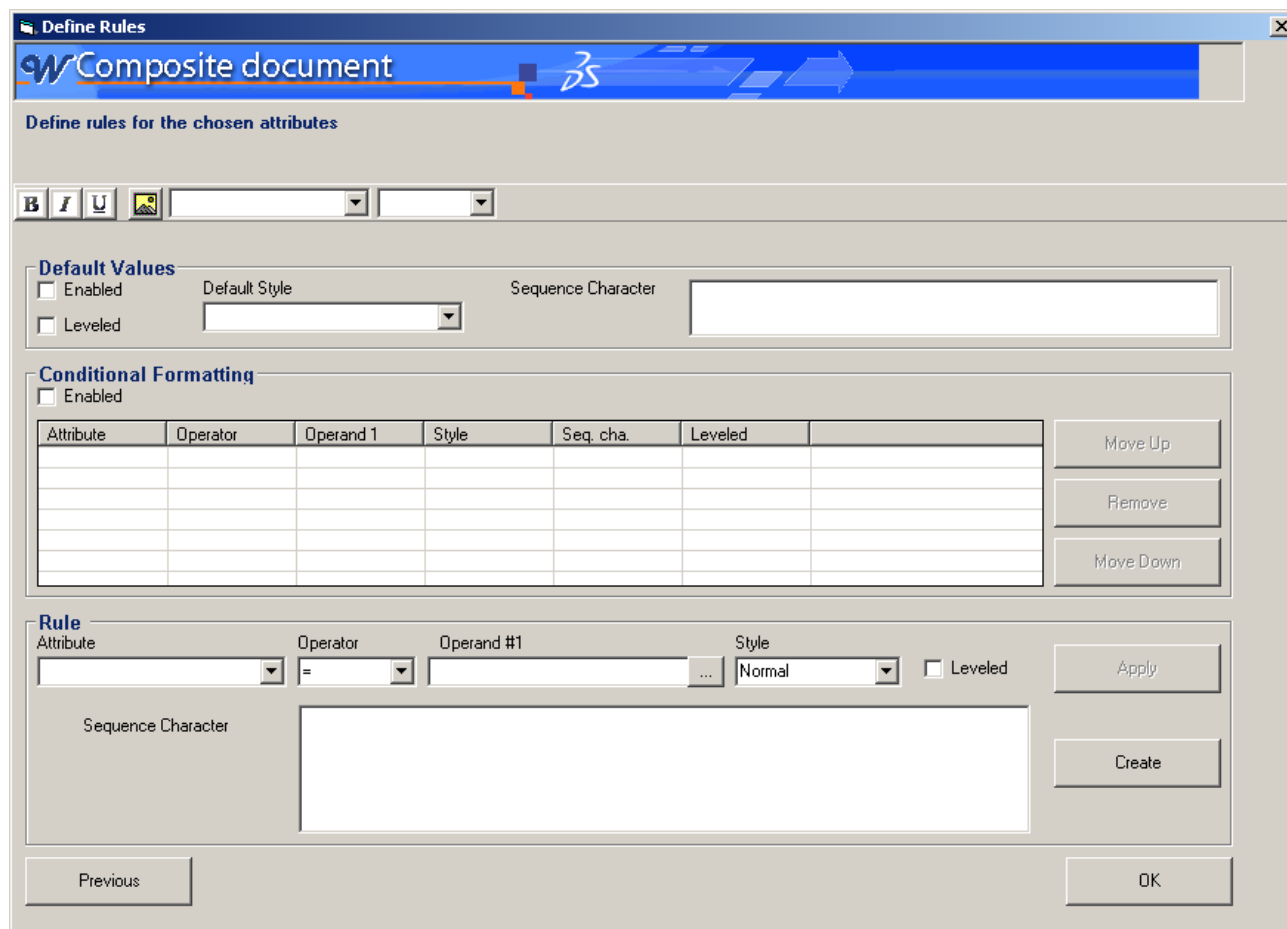
The 'Separator Before Query', 'Separator After Query' and 'Sort' zones are working the same as the basic mode except you can add here Rich Formatted text, style, picture, font and size, by using the toolbar under 'Define Presentation'.

The 'Attributes Exported' zone gathers all the selected attributes. For every attribute, you can define up to three sequences. The first and Third Sequence fields are also Rich Text free text field. Hence you can add Formatted and Style, space, tab and carriage return characters. You can insert special characters <%i> as well.

Escape sequence	Description	Example
%1	attribute's value	PRIMREQ-000456
%2	attribute's name	CN_DESCRIPTION
%3	attribute's display name	Description
%4	type of attribute	sdtChar
%5	XML Attribute	value
%6	Indentation	

In order to apply a format and style to the selected exported attribute, you need to use the "Formatted Sequence" field, pressing the set button.

You will get the window below:



The 'Default Values' zone allows defining the default style if Conditional Formatting is not Enabled or the conditions are not true.

In this zone, the 'Leveled' check box works as defined above for the basic mode.

The 'Enabled' check box switch on/off the default value. In case 'Enabled' is not checked, the attribute is not displayed.

The 'Default Style' lookup table is composed of the styles enclosed into Word template.

The 'Sequence Character' field is a free Rich Formatted text field. Hence you can add style, picture, font and size, by using the toolbar under 'Define rules for the chosen attributes'. You can insert special characters <%i> as well.

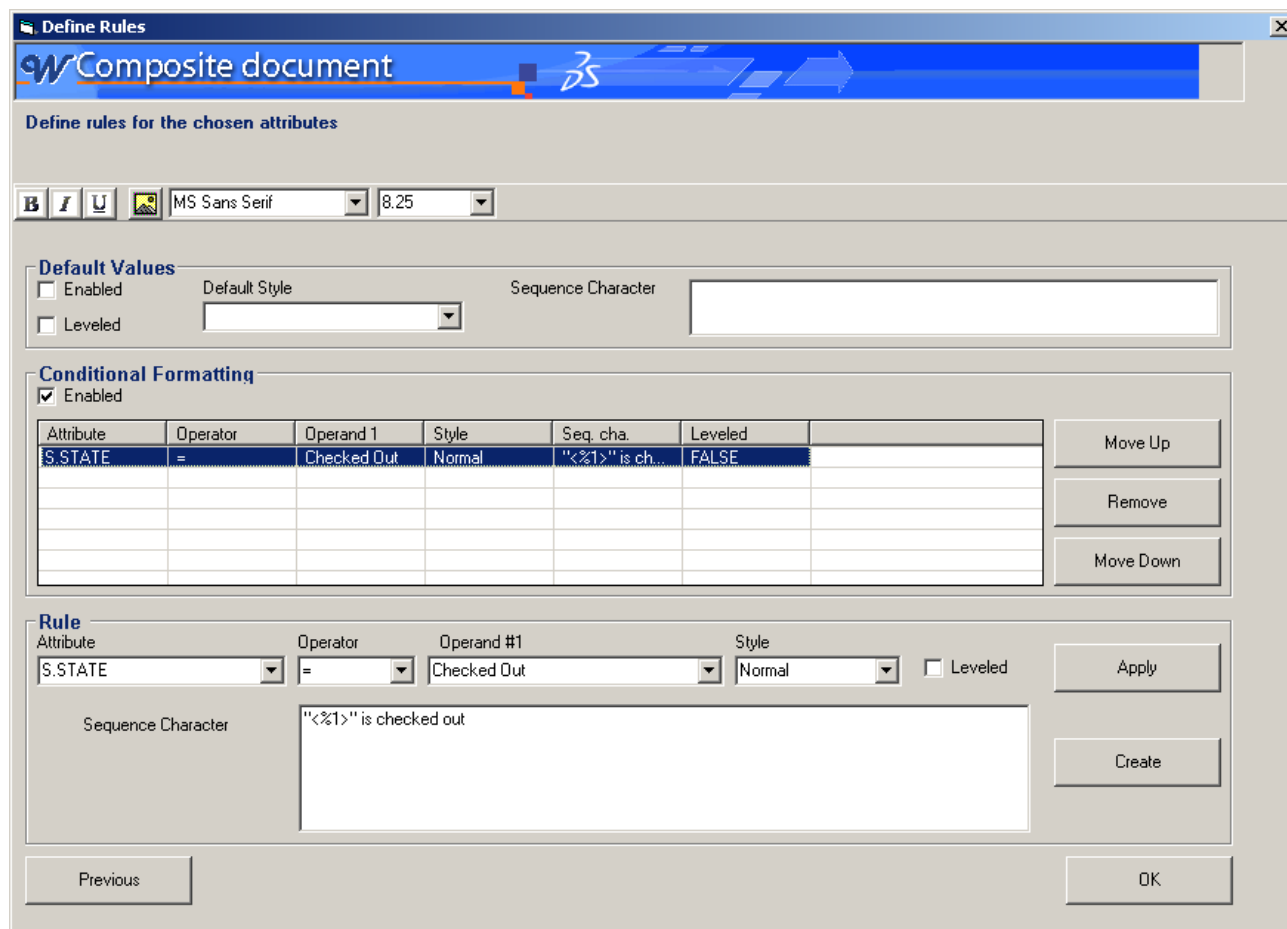
Escape sequence	Description	Example
%1	attribute's value	PRIMREQ-000456
%2	attribute's name	CN_DESCRIPTION
%3	attribute's display name	Description
%4	type of attribute	sdtChar
%5	XML Attribute	value
%6	Indentation	



If a Default Style is selected, the Sequence Character formatting is not activated. If the Default style is empty, then the Sequence Character formatting is activated.

For example, let say the current attribute is Unique Identifier, the following sequence character: **Attribute's name: %1** will display: **Attribute's name CN\_ID**.

The 'Rule' zone allows defining rules so as to modify the style and formatting of an attribute depending on its value. For that, you can select an attribute, an operator an operand, the style and a 'Sequence Character'. This 'Sequence Character' allows formatting the attribute in Rich Text format. Once it is done, you have to press on 'Create' button and the rule is stored into the 'Conditional Formatting' zone.



**Define Rules**

Composite document

Define rules for the chosen attributes

**Default Values**

☐ Enabled Default Style Sequence Character

☐ Leveled

**Conditional Formatting**

☒ Enabled

Attribute	Operator	Operand 1	Style	Seq. cha.	Leveled
S.STATE	=	Checked Out	Normal	"<%1> is ch..."	FALSE

Move Up Remove Move Down

**Rule**

Attribute Operator Operand #1 Style ☐ Leveled

S.STATE = Checked Out Normal

Sequence Character "<%1> is checked out"

Apply Create

Previous OK

Rules are applied one by one until the first verified. 'Move Up' and 'Move Down' buttons make you able to reorder the rules.

'Remove' button deletes the selected rule.

Once you selected a rule in the 'Conditional formatting' table, you can modify it in the 'Rule' zone and press 'Apply' button.

Finally, you can define as many rules as you want.

Pressing 'OK' you will save your settings and get back to the previous window.

Define Presentation

Composite document

Define Presentation

B I U [Image]

[Dropdown]

[Dropdown]

Separator Before Query

Formatting

- ☒ WYSIWYG
- ☐ Leveled
- ☐ Forced

Attributes Exported

Attribute	Attribute of	
Creation Date	OBJECT	
Compliance Level	OBJECT	
Comments	OBJECT	
Requirement	OBJECT	

First Sequence

Clear

Apply

Formatted Sequence

Default : not Enabled

Conditional : Enabled

Set

Third Sequence

Clear

Apply

Separator After Query

Formatting

- ☒ WYSIWYG
- ☐ Leveled
- ☐ Forced

Document Setup

☒ Landscape Allowed

☒ Downsize Allowed

Sort

☒ Enabled

Sort By

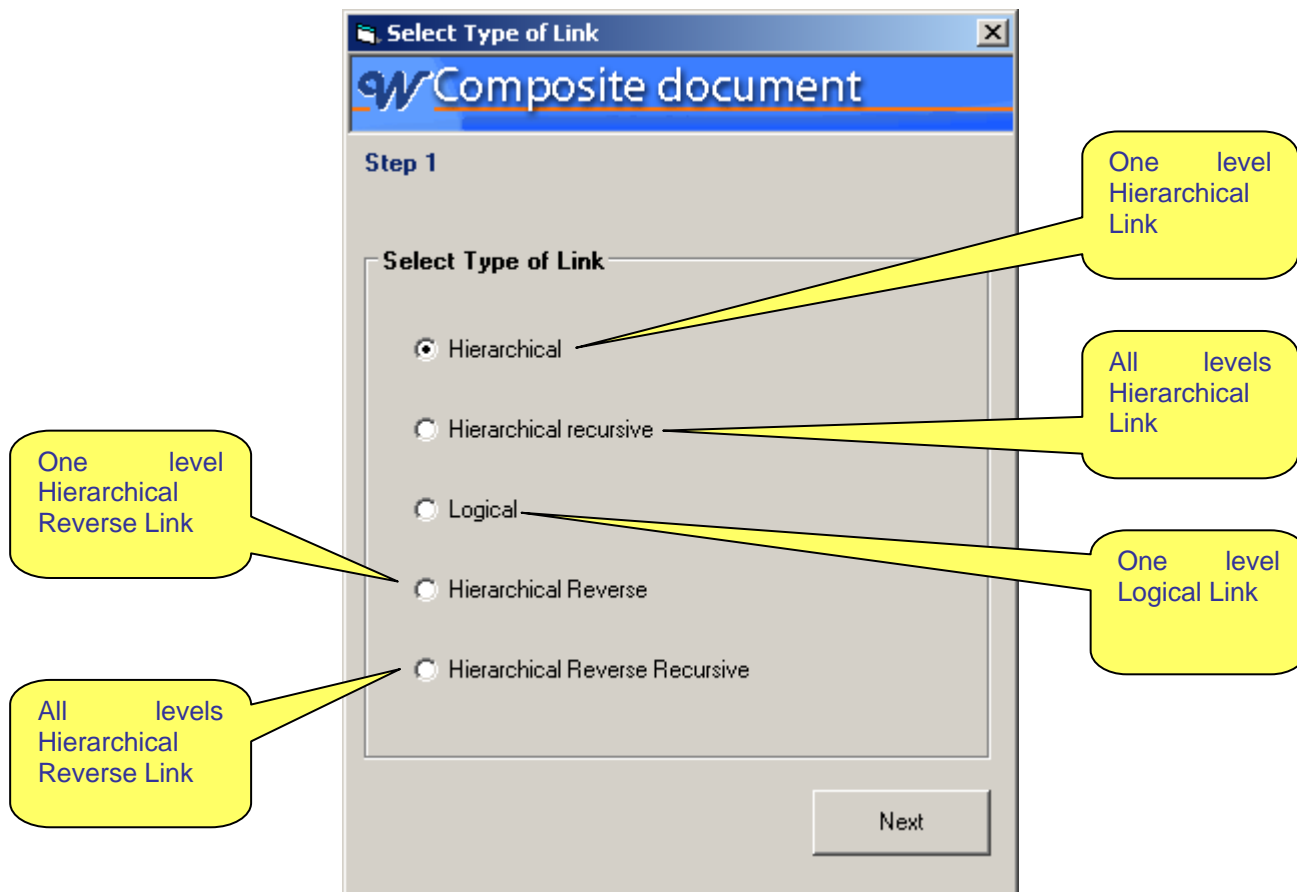
LTMX\_ORDERING

☒ Ascending

☐ Descending

Previous

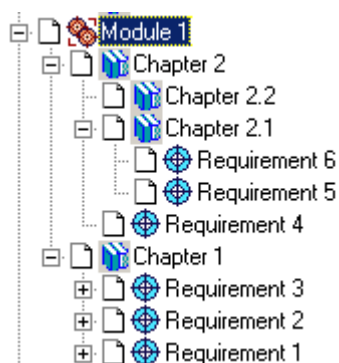
Finish



You can select a hierarchical or a logical link or a hierarchical reverse link for the query link. Hierarchical links are parent child links inside a SmartTeam tree. Logical links are the links seen through the “Link” tab and can be between any two objects in SmartTeam.

Hierarchical reverse links are child parent links inside a Smarteam tree. A Hierarchical recursive link will follow the parent-child links recursively, whatever the number of levels.

The parent class is reminded in the instruction (here: Primary Requirement). The behavior is similar for the hierarchical reverse recursive links except that the links are from children to parents.



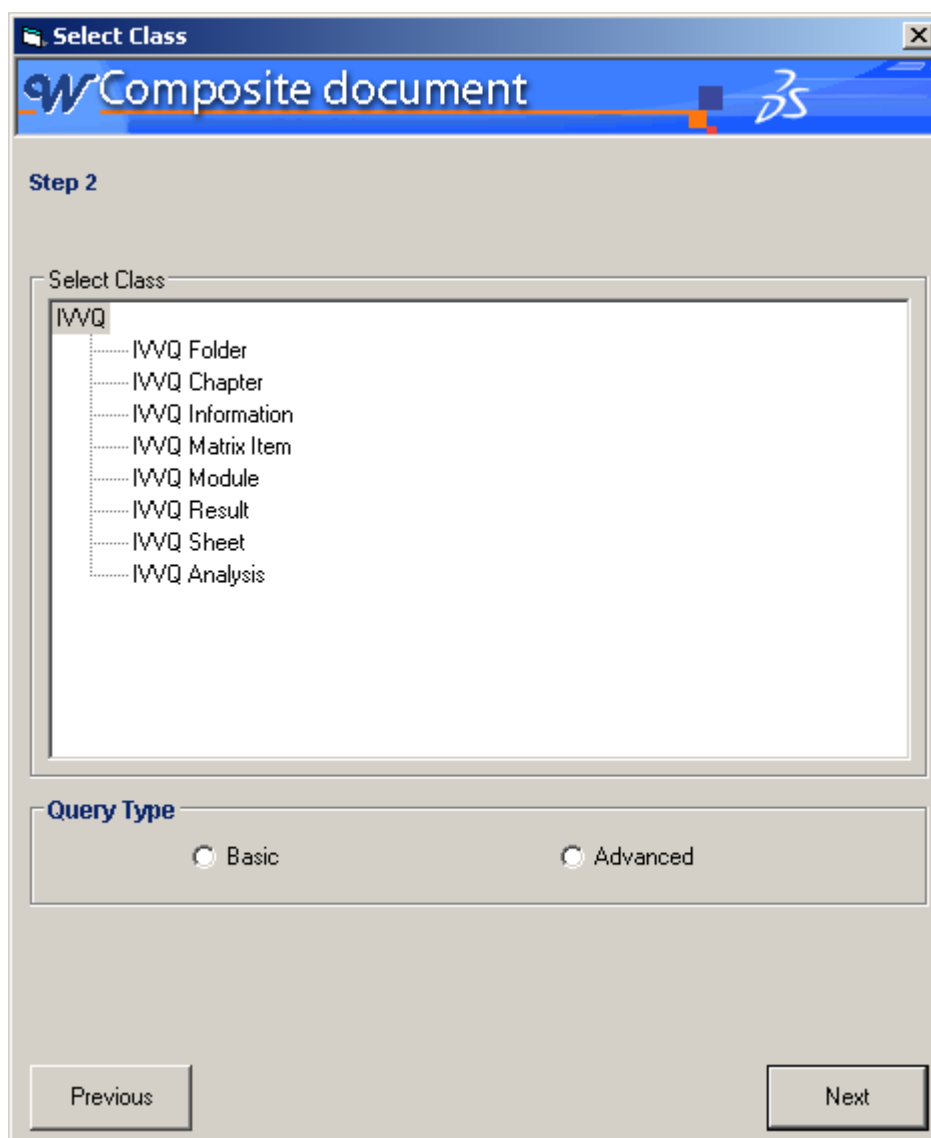
For example, let's say you have the following structure in the Requirement Tree:

A Hierarchic Link on chapters from the Module will give you *Chapter 1 and Chapter 2*, while a Hierarchic recursive on Chapters will give you *Chapter 1, Chapter 2, Chapter 2.1 and Chapter 2.2*.

A Hierarchical reverse recursive link on Chapters from Requirement 6 will give you *Chapter 2.1 and Chapter 2*.

### 4.2.1.2. Select Class

A Query Node is first described by the class of objects to be exported.



In this step you choose the class of the objects to export. The list proposes all classes under the super class or class selected thru the query root.

Then you have to select the 'Basic' or 'Advanced' mode for the query link definition as well as you've done it for query root definition.

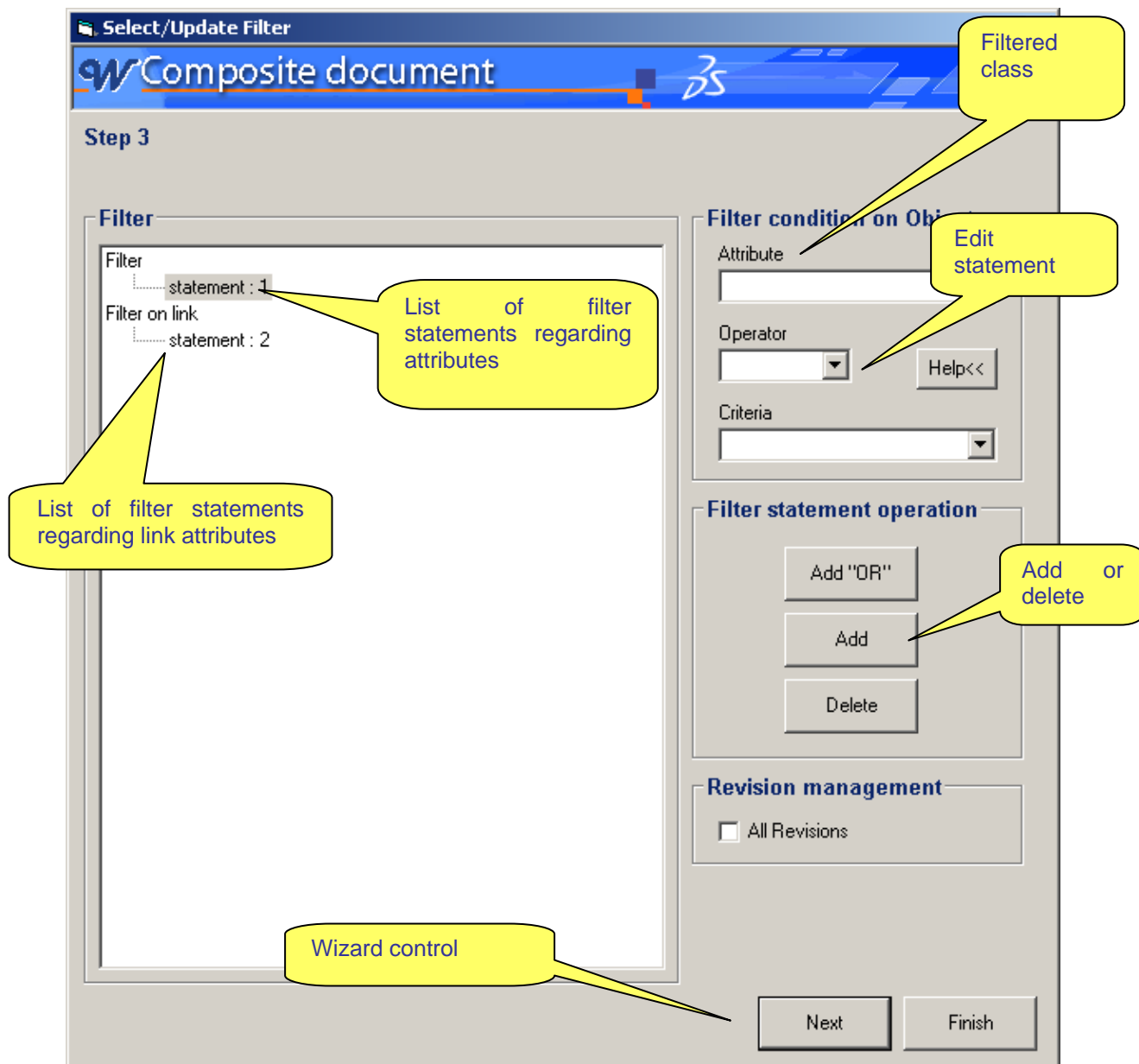
### 4.2.1.3. Select Filters

Once the class is defined, you can filter the objects of the class to be exported.

A filter is a set of statements the object of the class must verify to be exported.

Each logical statement is defined with an attribute of the class, an operator and a criteria.

The attribute field allows choosing from the attribute list. In the same way once an attribute is chosen, the Operator list proposes the operators allowed for the type of attribute selected.




Select an attribute, an operator and criteria, click on “Add” to save the statement. Click on “Delete” to delete the selected statement.

If the type of attribute is a lookup, the criteria to choose from will be the list of values.

If the type of attribute is a date, a calendar appears after a double click on the criteria.

**Note:** To filter an attribute with a date type, the regional settings of the operating system must be set to English or French.

ent


Subjects of the class IVVQ Chapter

### Filter condition on object

Attribute  
Approval Date

Operator  
=

Criteria

Help >>

### August 2007

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	29	30	31	1	2	3	4
32	5	6	7	8	9	10	11
33	12	13	14	15	16	17	18
34	19	20	21	22	23	24	25
35	26	27	28	29	30	31	1
36	2	3	4	5	6	7	8

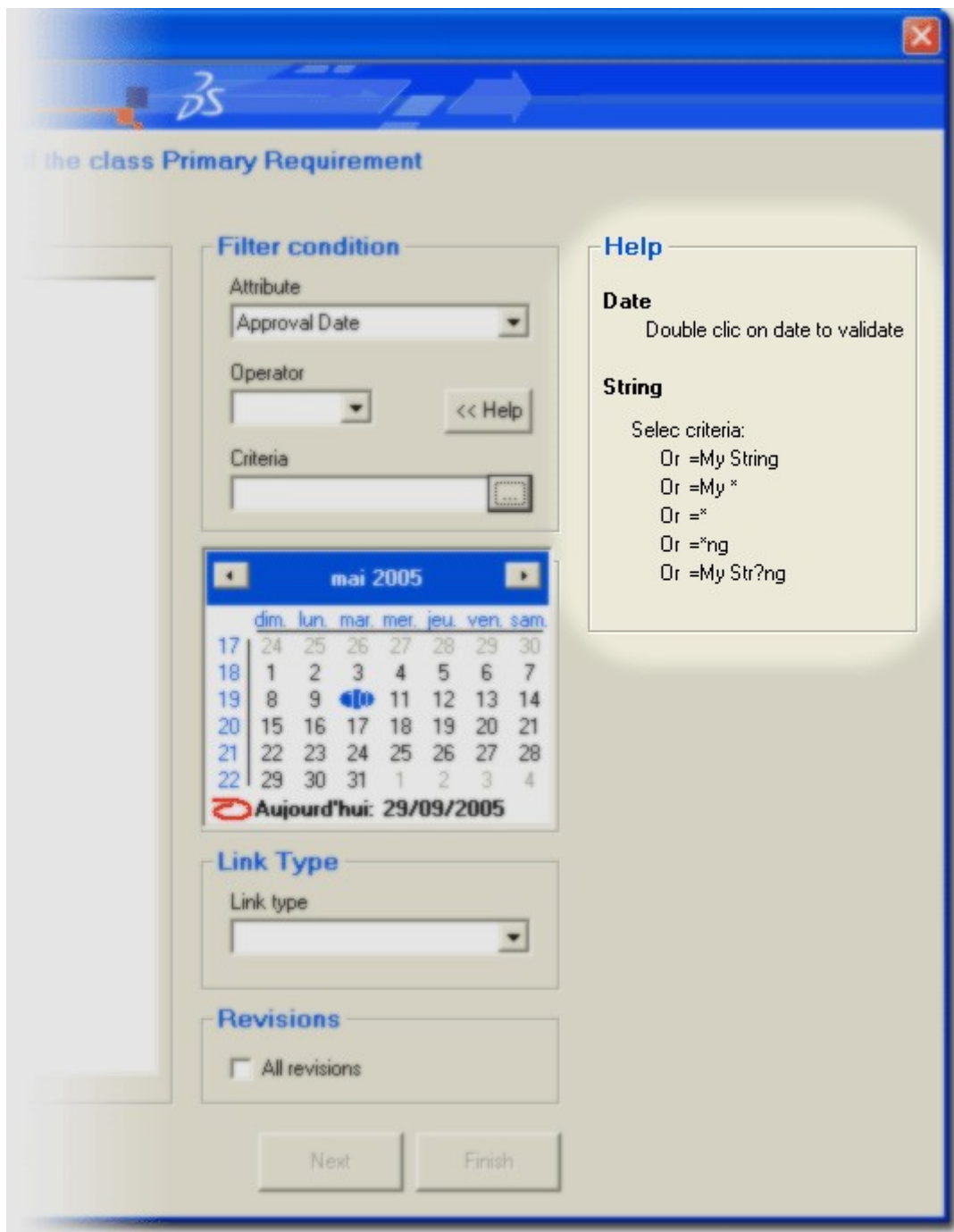
Today: 8/16/2007

### Revision management

☐ All revisions

Next
Finish

The help button gives some help about the syntax of the criteria to enter:



**Filter condition**

Attribute: Approval Date

Operator: [dropdown]

Criteria: [text box]

**Calendar:** mai 2005

	dim.	lun.	mar.	mer.	jeu.	ven.	sam.
17	24	25	26	27	28	29	30
18	1	2	3	4	5	6	7
19	8	9	10	11	12	13	14
20	15	16	17	18	19	20	21
21	22	23	24	25	26	27	28
22	29	30	31	1	2	3	4

**Link Type**

Link type: [dropdown]

**Revisions**

☐ All revisions

**Help**

**Date**  
Double click on date to validate

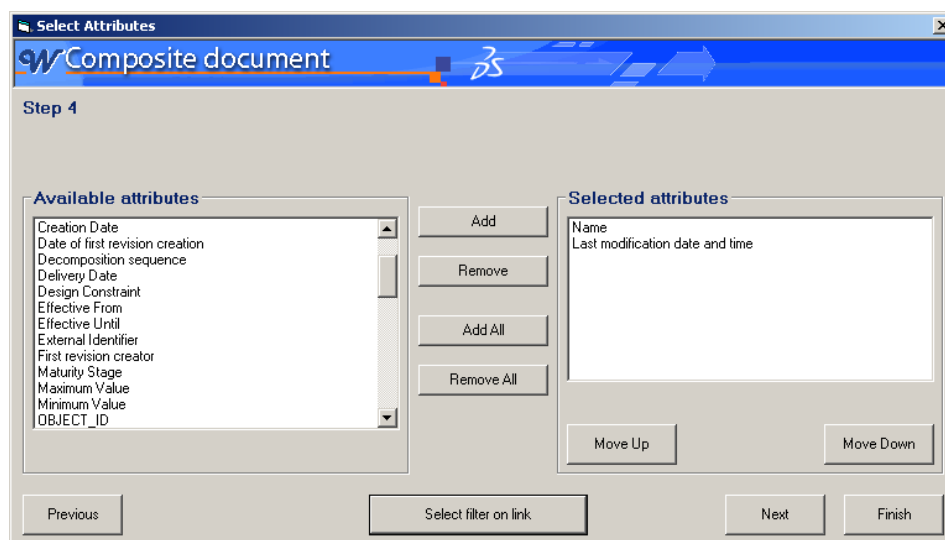
**String**  
Select criteria:  
Or =My String  
Or =My \*  
Or =\*  
Or =\*ng  
Or =My Str?ng

Next Finish

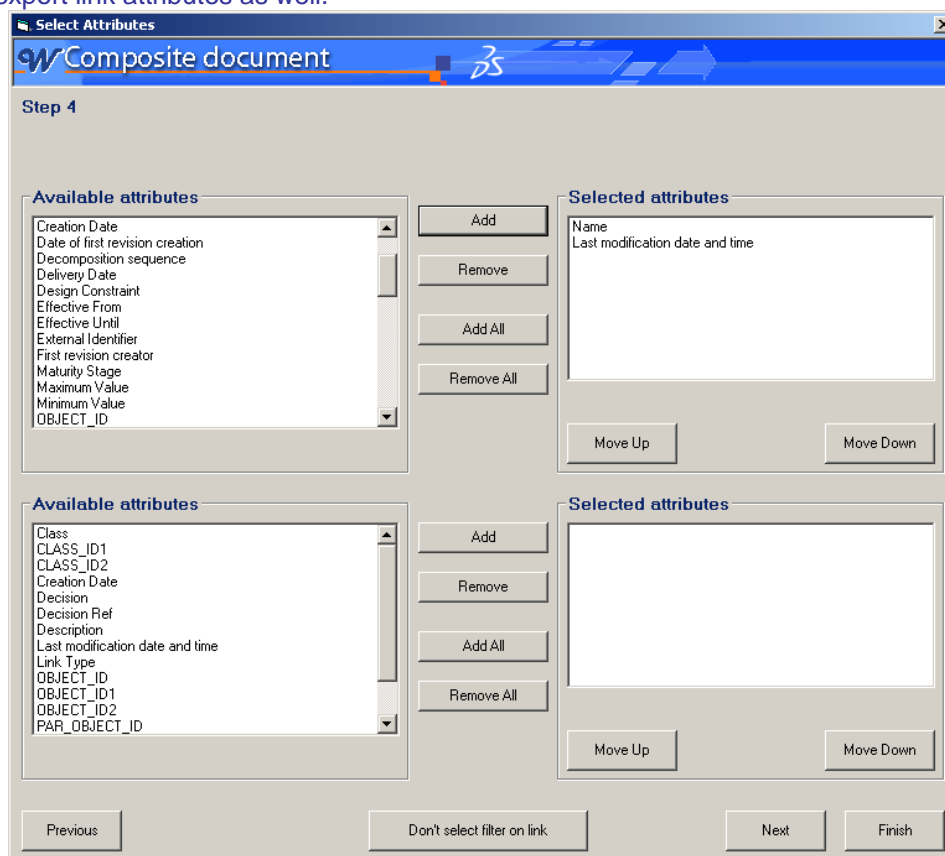
It's possible to define a filter on the link type (hierarchical or logical), using the lookup table on the right bottom (of the window). No selection means that there is no filter.

#### 4.2.1.4. Select attributes

Whatever the mode you selected before (basic or advanced), once you have defined the class and filter of the objects to export, you have to define which attributes of the exported objects to display in your document. You can export attributes of the selected objects as shown below.



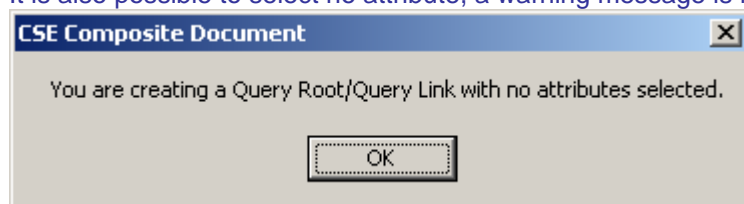
And you can export link attributes as well.



It is possible to export as many attributes as you wish.



It is also possible to select no attribute, a warning message is fired :



To select several attributes at once:

-  key control to select another attribute which is not next to the first,
-  key shift to select neighbor attributes of the already selected one.

It's possible to reorder the attributes with the "Move up" or "Move down" buttons. The order specified will be the order in which the attributes will be exported in the document.

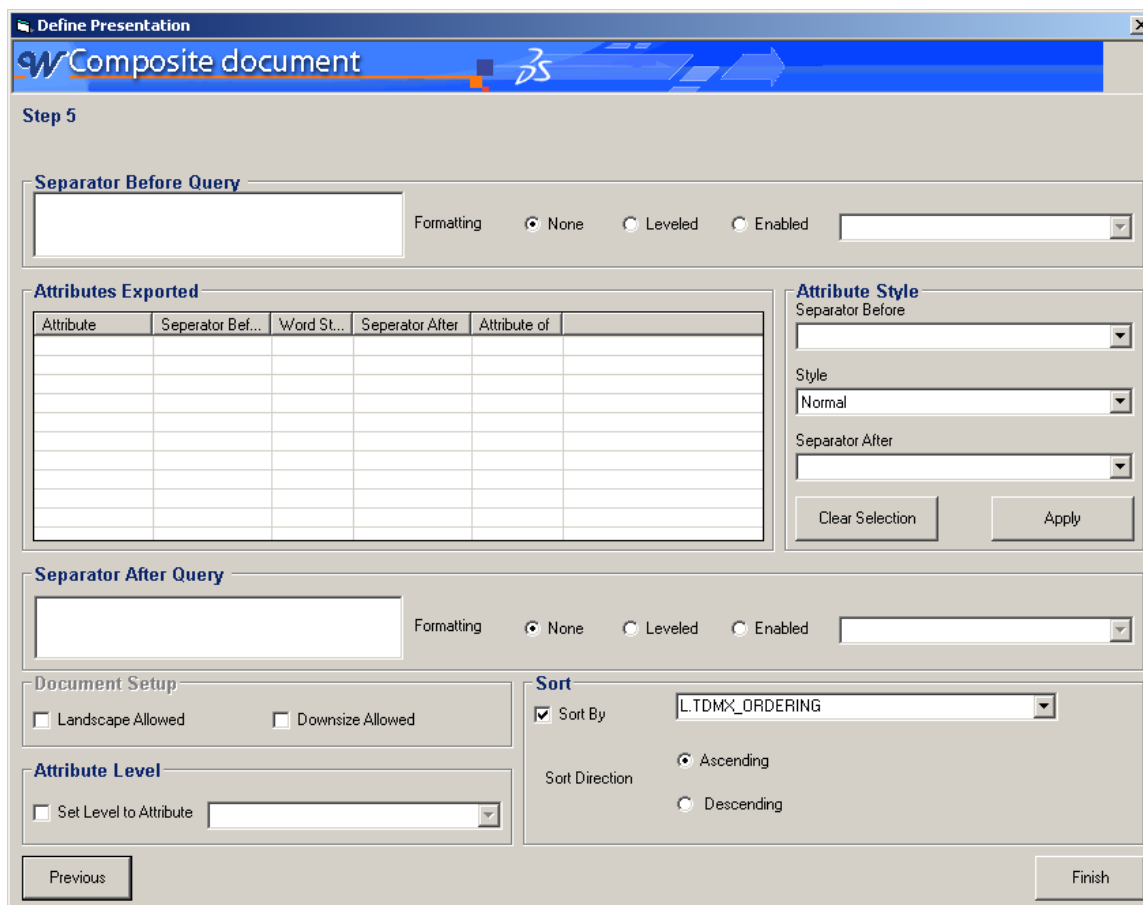
The attribute LINKED\_FILE enables to export the document referenced by the object. It is available for all classes that are file controlled.

It is possible to position the LINKED\_FILE anywhere in the export using the order.

## 4.2.1.5. Select Word style for attributes

### 4.2.1.5.1. Basic Mode

This step allows defining the style for each attribute exported.



**Define Presentation**  
Composite document

Step 5

**Separator Before Query**

Formatting: ☒ None ☐ Leveled ☐ Enabled

**Attributes Exported**

Attribute	Separator Bef...	Word St...	Separator After	Attribute of

**Attribute Style**

Separator Before:

Style:

Separator After:

Clear Selection Apply

**Separator After Query**

Formatting: ☒ None ☐ Leveled ☐ Enabled

**Document Setup**

☐ Landscape Allowed ☐ Downsize Allowed

**Attribute Level**

☐ Set Level to Attribute

**Sort**

☒ Sort By

Sort Direction: ☒ Ascending ☐ Descending

Previous Finish






Everything works like Query Root., except that 'Document setup' zone is enabled.

'Document Setup' zone is composed of two check boxes

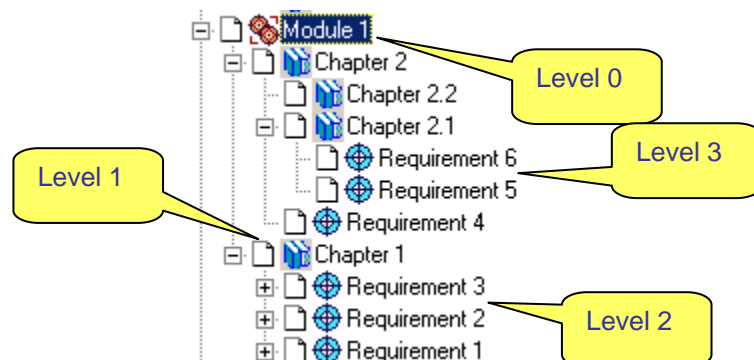
The Separator Before Query will be outputted before the data.

The Separator After Query will be outputted after the data.

To modify one or more style attributes:

-  Select the attribute(s) (multiple selections are available).
-  Select the Separator Before.
-  Select the style.
-  Select the Separator After.
-  Click on the "Apply" button.

The **level** defines a level in a tree when exporting **hierarchic recursive** linked objects. For instance, when exporting a Requirement Tree as below:



If you set the level to an attribute, such as “Name”, then the right Heading linked to the level will be given to that attribute in Word:

Module 1 will be exported as *Heading1*, Chapter 1 will be exported as *Heading2*, *Requirement 1* as *Heading 3*, ...

The Document setup section is dedicated to the LINKED\_FILE attribute. Indeed, the linked file is embedded into the final Word document and the content can be greater than the Word template format. So the first checkbox “Landscape allowed” authorizes Composite to try the landscape mode in order to insert the content of the linked file and to make it fit to the used template.

The second checkbox “Downsized Allowed” authorizes Composite to resize the content of the linked file in order to fit to the current template format.

The Sort section is dedicated to order the exported elements according to a class attribute value or a link attribute value. Then, it is possible to export all the documents of a folder by sorting them according to the creation date, from the older to the newer.

Note: a link attribute is prefixed with “L.”, and a class attribute is prefixed with “S.”



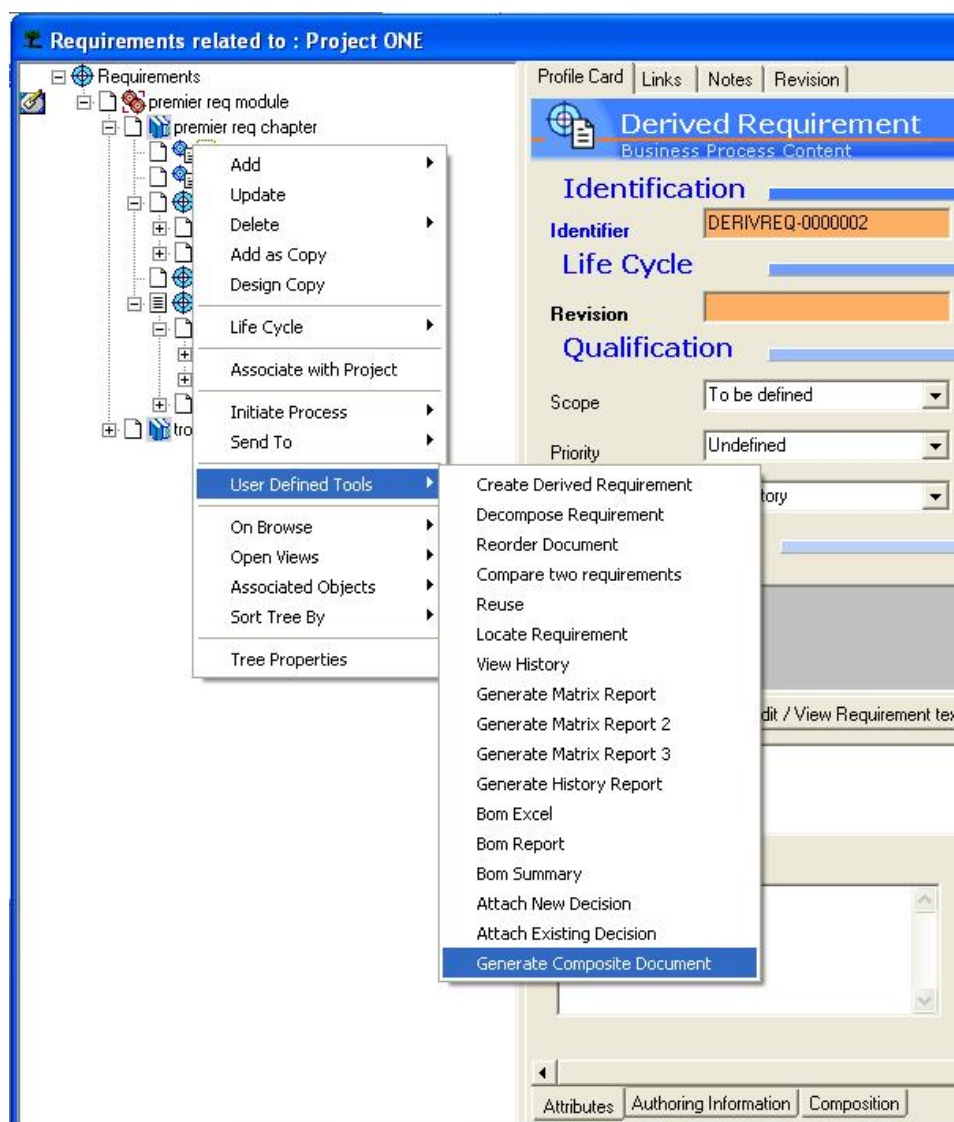
## 5. Composite Document Generation

### Generating a Composite Document in SmarTeam

There are two ways to call Generate Document:

- ✚ **Directly from Smarteam:** a User can from any SmarTeam object call the generate document tool. The tool proposes to the user all the queries defined that are applicable to the selected object. This is shown here.
- ✚ **Inside Word:** Once Queries have been added to a Word Document, the “Generate Document” Tool can be called directly in Word. It will generate a new Word document following the definition of the current template. This will be described in the next section.

In SmarTeam, once a Query defined, the user can use it to generate a document by selecting a root object and calling “Generate Composite Document”:



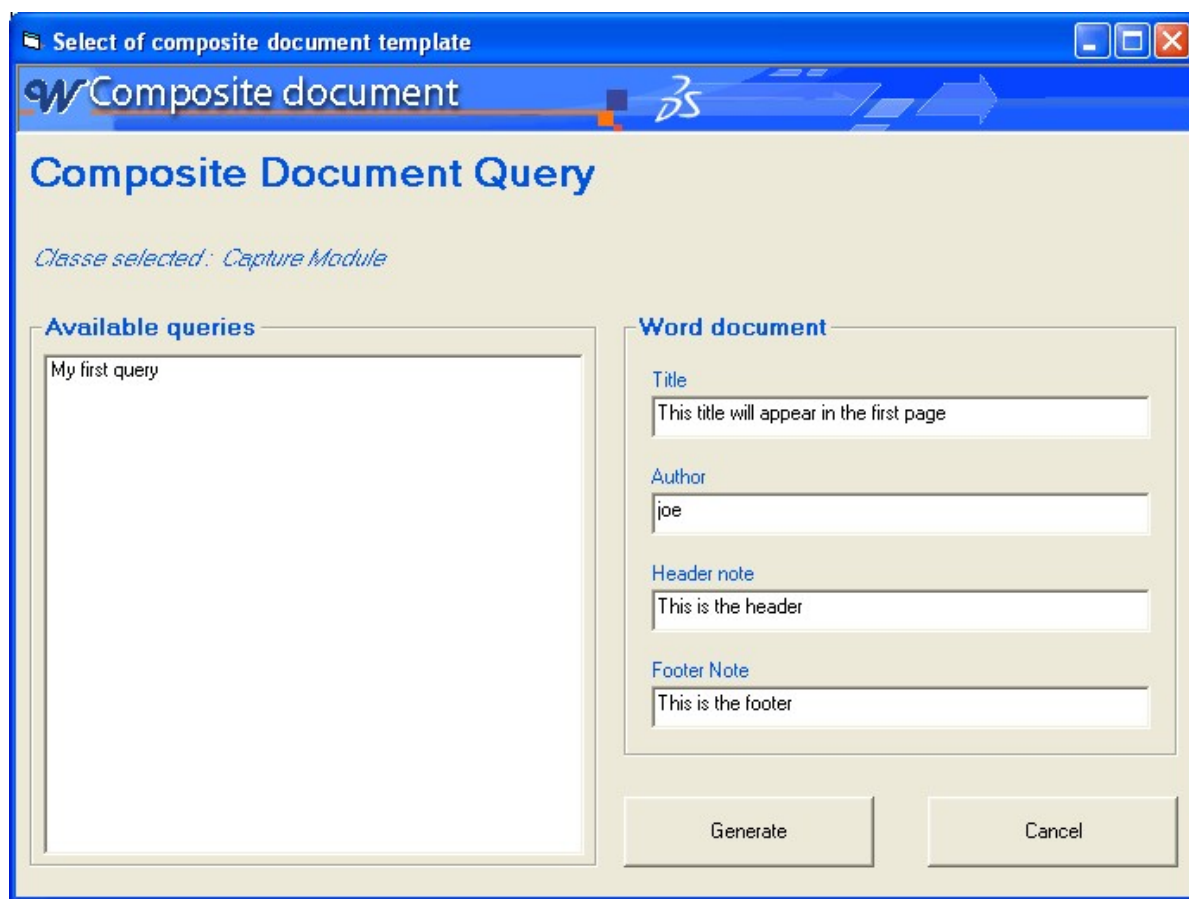
A button is also available: 

The user must select the object (the starting point) for the composite document.

Use the context menu and select “User Defined Tools / Generate Composite Document” or the button.

The Composite Document Generation Wizard will scan all available queries and propose only the ones defined on a compatible Class with the selected Root object.

The following window appears:



In this example, one query is available for a CaptureModule.

The list of queries available to the user is composed of queries of the root object class or its super class.

Define a Title, an author, a Header note and a Footer note as needed. These values will be transferred to the word document.

Click on the Generate button. A Composite Document will be created in Word, using the default Word Template. The data exported will be as defined in the Query using the selected object as root.





## 6. Composite Document Generation

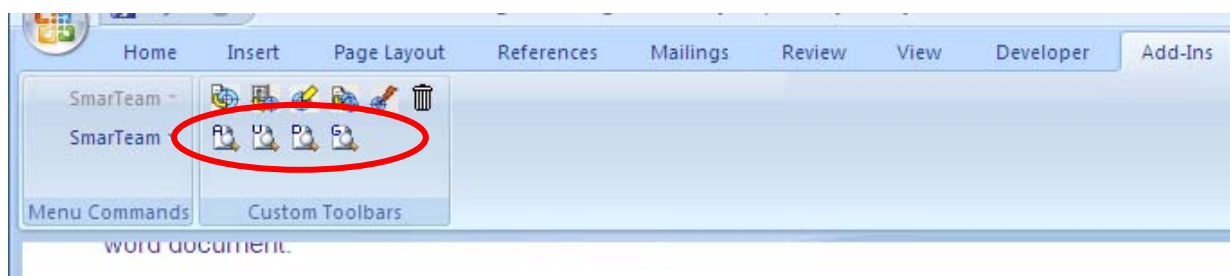
### Defining a Word Template

Templates are Word Documents which can call Composite Document Queries.

The document is a normal Word document in which you can define chapters, insert text, define Headers, Footers, etc .... At some point in the document you can insert a call to a Composite Query.

The Composite Document Generation Menu proposes 4 commands:

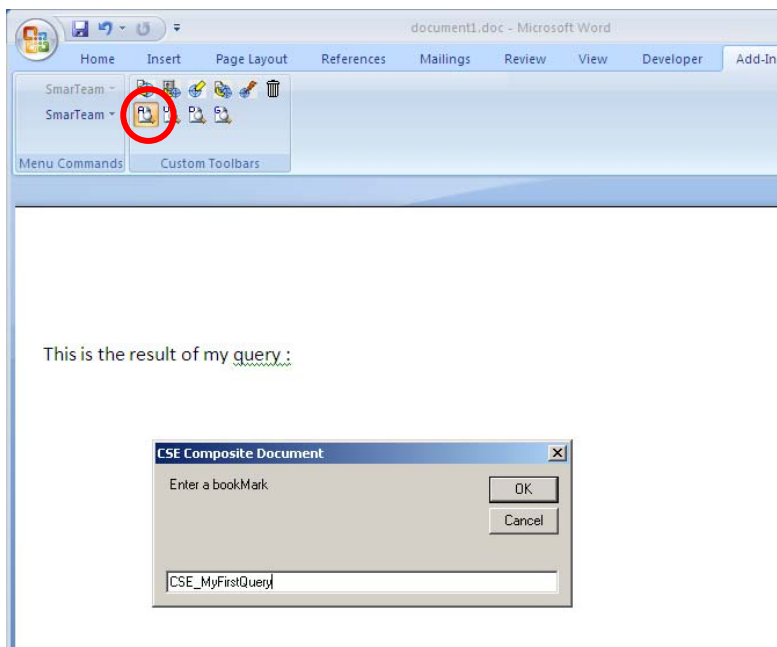
-  Add a Query Call;
-  Modify a Query Call;
-  Delete a Query Call;
-  Generate Document.



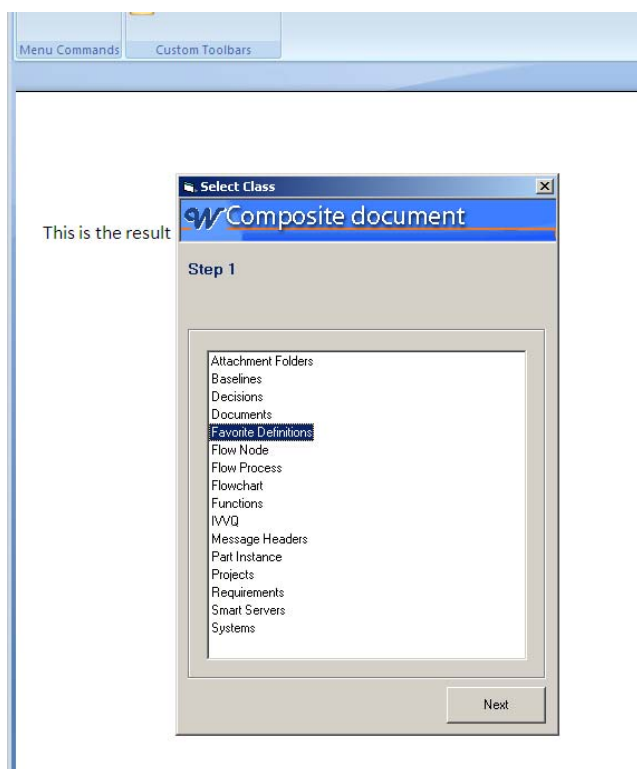
A Query Call allows calling a Composite Document Query, defining a filter for the Root object, and inserting it into the document under a specific Name. The user is guided in his definition by a Wizard in the same style as the Query Builder.

## 6.1. The Add Query Wizard

1. asks for a Name for the Query bookmark,

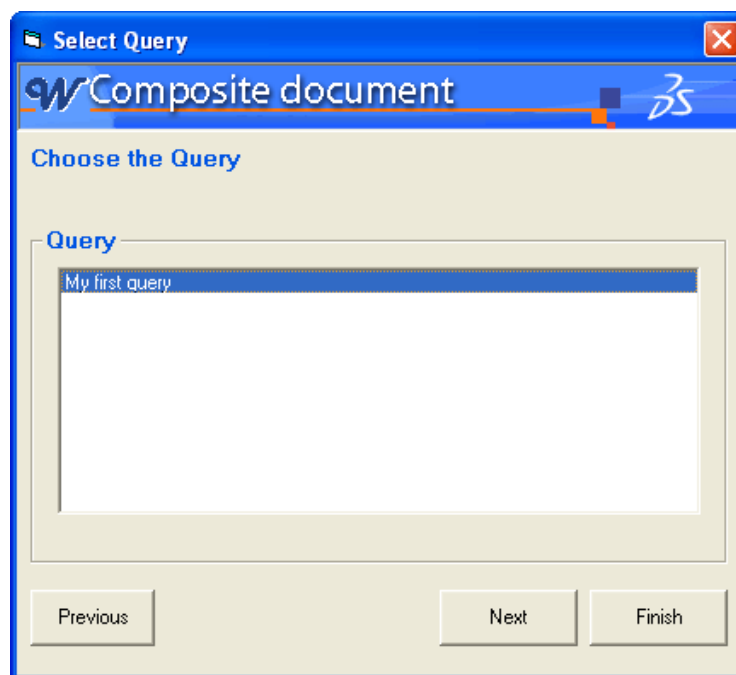


2. asks for the Class of the Query,

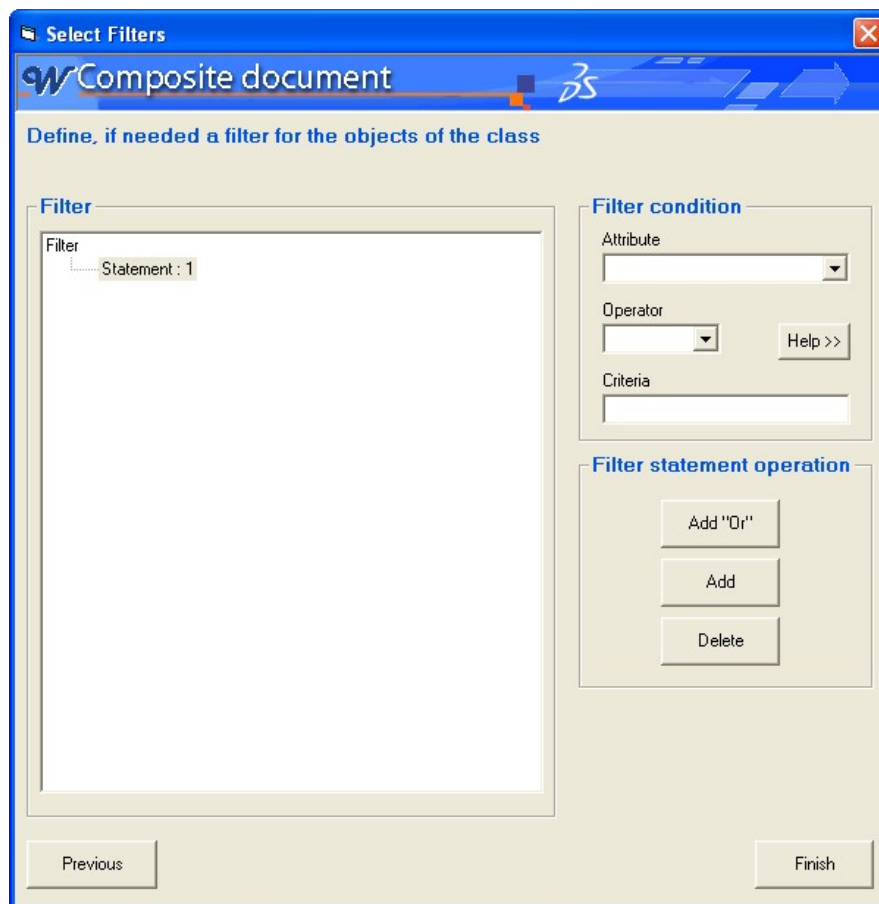




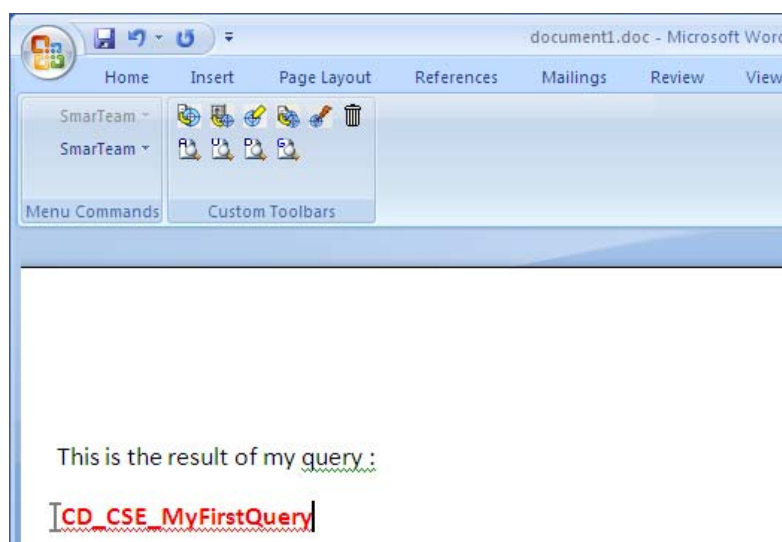
3. proposes the available Queries for the given class,



4. asks for a Filter on the objects of the class if necessary,



5. Inserts the Query bookmark.



The Query bookmark is a visible tag for the user. The definition of the Query call is stored directly in the Word template, inside the properties of the document, in the Comments field. A query call looks like:

### **[CD\_CSE\_MyBookmark]**

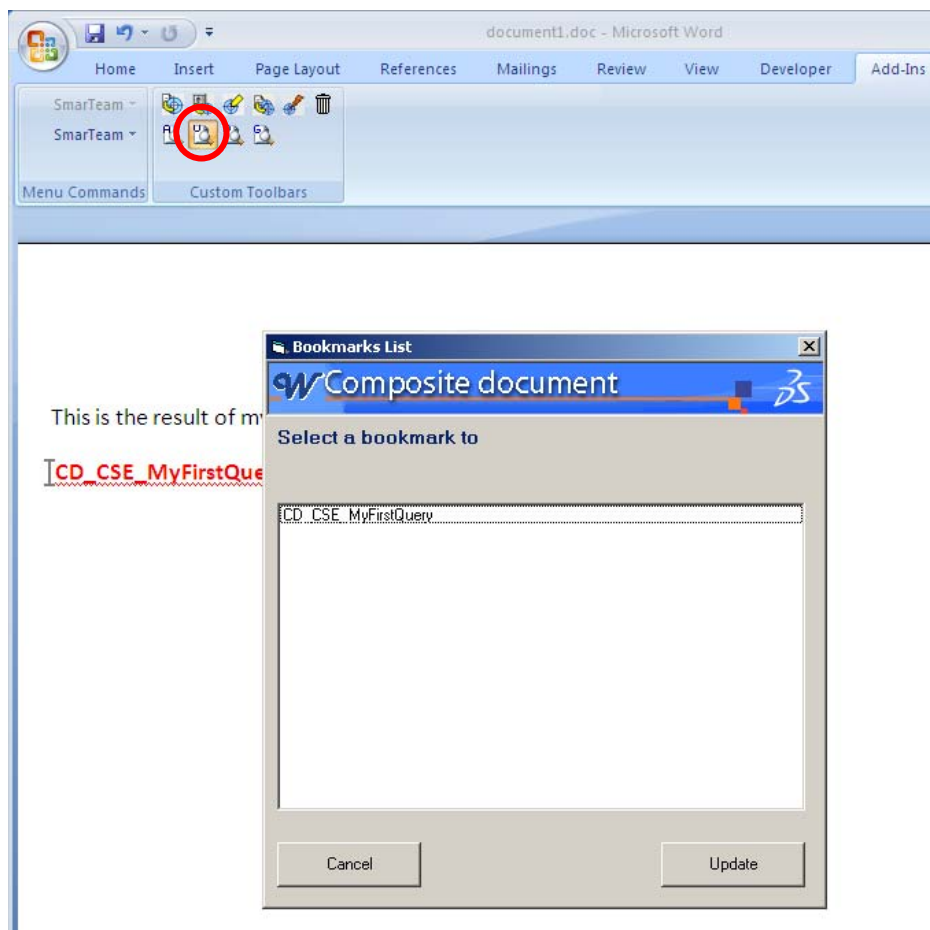
The Query call does not point on a given SmarTeam object, but on a whole class of objects. To further refine the object to export as root, the user uses the Query filter.

If the Query results in more than one root object, the export will be on all those objects, one after the other. If no filter is given, for instance for Query "FunctionToTest", the document generated will contain the result for all functions of the Database.

You can call as many queries as you want in the same document template. Queries can be inserted anywhere in the Word Document.

## 6.2. The Update Query call

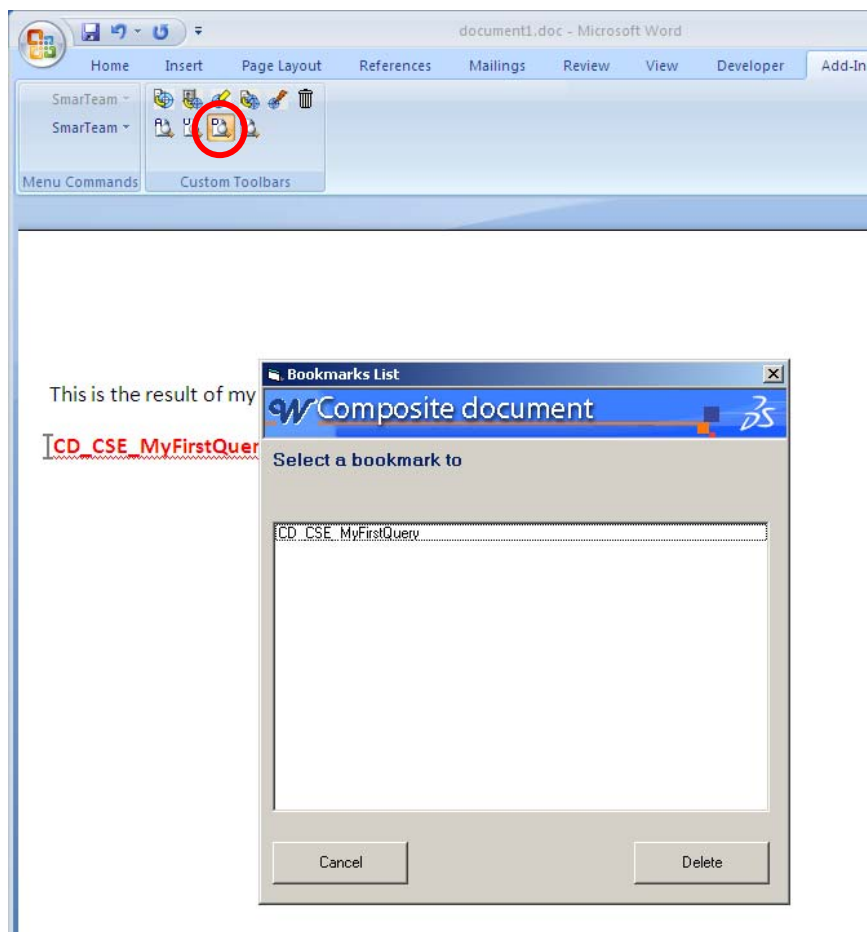
It asks the user which query to update:



You then enter the created bookmark Wizard in update mode.

## 6.3. The Delete Query call

It asks the user which query to delete:



and then simply deletes the bookmark.

## 6.4. The Generate Document Call

When generating the document from the template, the bookmarks and the properties field are erased in the output document.

