



LCA Administration Advanced (4)

DMC RADE Tools

Version 5 Release 11
May 2003
EDU-ENOV-E-LAD-AX-V5R11

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Exercise

CAA V5 Data Model Customizer (DMC) : Presentation



2 hours

Through the RADE, you can develop applications for CATIA and ENOVIA LCA using add-ins integrated in Visual C++.

In this exercise, you will see how to customize existing ENOVIA LCA Data Schema. Customization is done by creating a new data schema extending an existing one and by using this extension at runtime as part of the original.

With this method, the original data schema is not modified and the customization is separated from the application.

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Design Intent : CAA V5 Data Model Customizer

- 🔗 Create a new CAA V5 workspace
- 🔗 Locate and Define NT Prerequisites
- 🔗 New ENOVIA Application
- 🔗 Rational Rose's UML Editor
- 🔗 New ENOVIA Application
- 🔗 Rational Rose's UML Editor
- 🔗 New ENOVIA Application
- 🔗 Rational Rose's UML Editor
- 🔗 Define the UNIX Prerequisites
- 🔗 Publish shell
- 🔗 Check the results in ENOVIA LCA

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Exercise

CAA V5 Data Model Customizer : Create a new CAA V5 Workspace



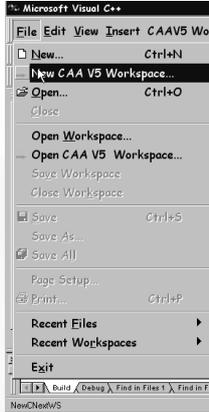
In this step, you will create:

- ◆ A CAA V5 Workspace
- ◆ A CAA V5 Framework

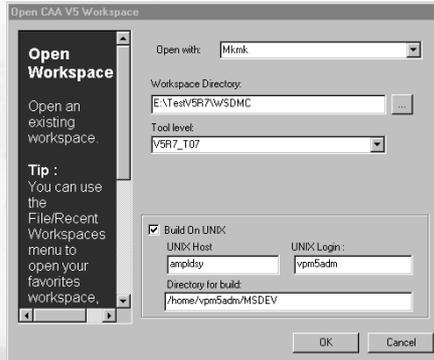
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Do It Yourself : New CAA V5 Workspace



Use the File/New CAA V5 Workspace to create a new Workspace where you will create new objects or edit existing ones.



Fill in the workspace directory, the tool level for Make and the several parameters needed for the UNIX Server connection.

You are developing the code on NT, but the ENOVIA server is on UNIX. So the code is transferred on a UNIX machine.

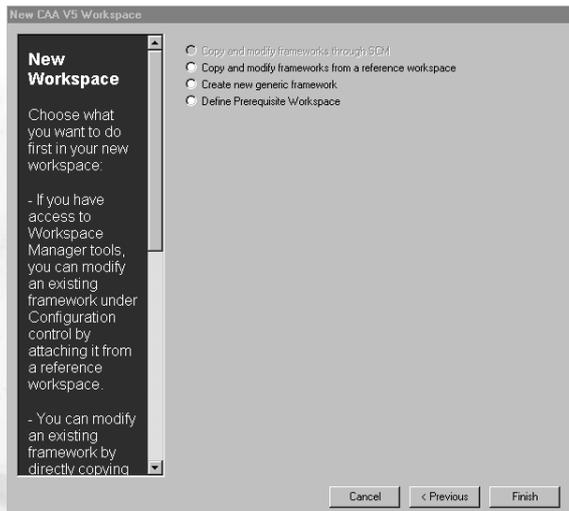
Then, the workspace is created and the compilers are initialized

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Do It Yourself: Create an new CAA V5 Framework

• Define the Prerequisite Workspace



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Exercise

CAA V5 Data Model Customizer : Locate and Define the NT prerequisites



10 min.

In this exercise you will :

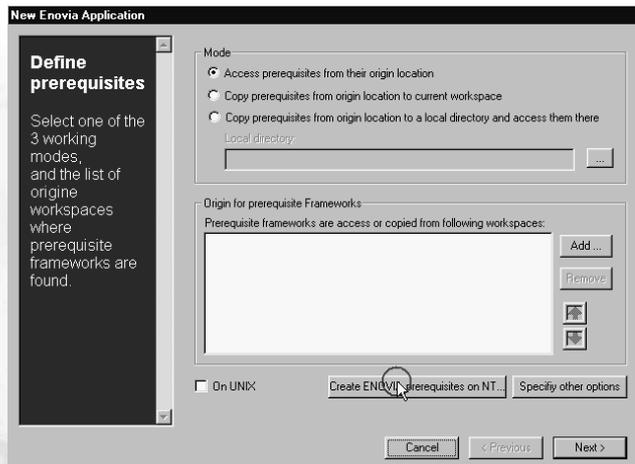
- ◆ Create the ENOVIA LCA prerequisites on NT
- ◆ Add the NT prerequisites

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Do It Yourself: Create the ENOVIA prerequisites on NT

↘ The prerequisites are available through the CAA ENOVIA CD. Since they were installed on an UNIX machine, this panel allows you to transfer its to the NT machine



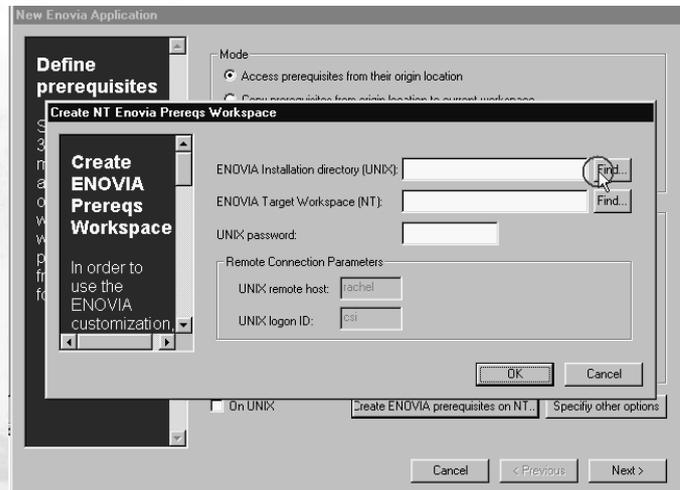
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Do It Yourself: Create the ENOVIA prerequisites on NT

↘ Indicate:

- ENOVIA Installation directory
- ENOVIA Target Workspace
- UNIX password



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Do It Yourself: Add the NT prerequisites

↘ Then, you reference the NT prerequisites using the Add Button

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Exercise

CAA V5 Data Model Customizer : New ENOVIA Application



In this exercise you will customize the Product Structure Schema

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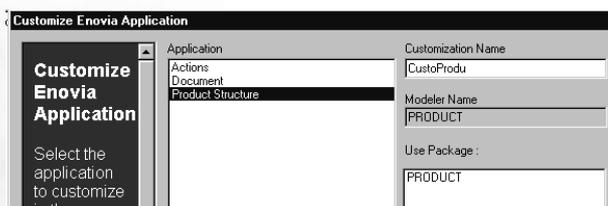
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Do It Yourself: Customize the Product Structure Schema

The application list is filled in by scanning the prerequisite workspaces defined previously.

When you click on 'Finish', a framework is created, containing a new empty UML model. Rational Rose is started on this new model.

Be careful, the customization name is limited to 10 characters



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Exercise

CAA V5 Data Model Customizer : Rational Rose's UML Editor



25 min.

In this exercise you will :

- ◆ Use the New Modeler Object
- ◆ Inherit from standard classes
- ◆ Edit Attribute
- ◆ Split button
- ◆ Static UML Representation
- ◆ Generate



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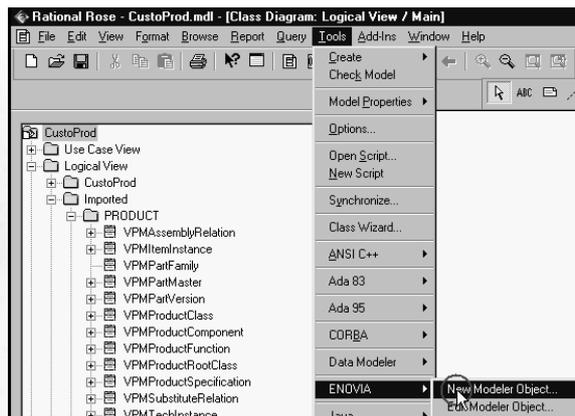
Do It Yourself: New Modeler Object

➤ Rose is started on the project of the new customization.

➤ In the new UML model generated by the Wizard, you can see an 'Imported' package where UML models of prerequisite frameworks are imported. You can use this package to browse available objects.

➤ The package 'CustoProd' will contain your own objects.

➤ Use the Tools/Enovia/New Modeler Object to start the Wizard.



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Do It Yourself : Inherit from standard classes

↳ This Wizard will generate a new object for you. This new object is a customization of its 'SuperClass' object .

➤ The new object attributes will be added to the 'SuperClass' object attributes in ENOVIA LCA.

The SuperClass can be chosen in the 'Application Framework' objects

Be careful, the Class name is limited to 24 characters

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Do It Yourself: Edit Attribute

↳ For the exercise, you will customize the VPMItemInstance. Since this object is composed of a VPMPartMaster, a VPMPartVersion and a VPMItemInstance, you will need to derive your objects from these three entities.

➤ Use the insert button to add new attributes. Attributes can be simple types (ex: Integer...).

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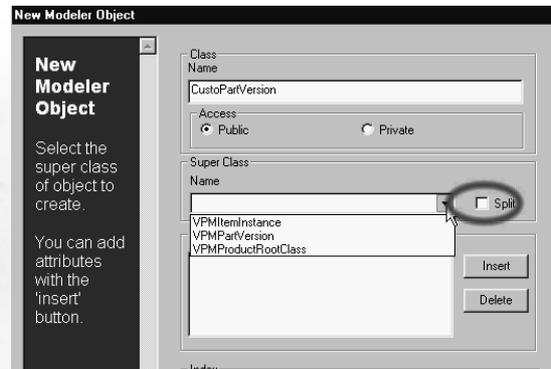
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Do It Yourself: Split button

Remark:

➤ Splitting means that you want to create a new table in the database

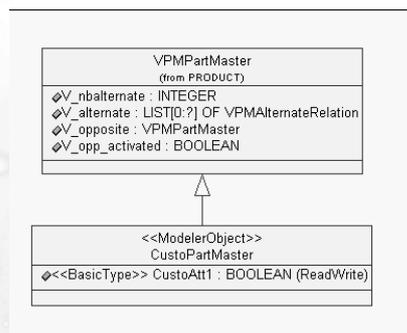
➤ The CAA V5 data migration forces you to create a new table for your customization. RADE follows the guidelines of CAA V5



Do It Yourself: Static UML Representation

↘ When you click on 'Finish', the Wizard generate the UML entity corresponding to your new object and a Class Diagram displaying them.

➤ You can modify your new Object directly in this diagram.

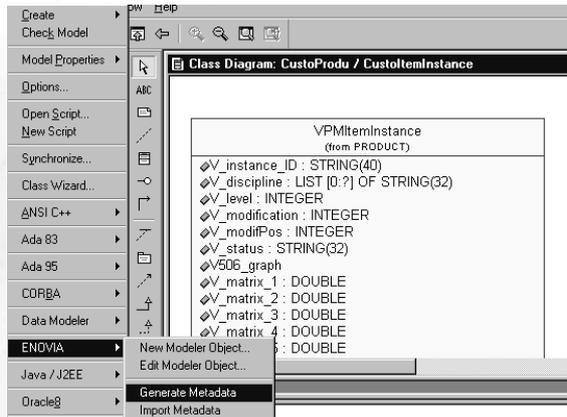


Do It Yourself: Generate

➤ To update ENOVIA dictionary with your new application, use the 'Tools/Enovia/Generate' menu.

➤ You should use this command each time you modify your UML model.

➤ Then close Rational Rose to go back to Visual Studio.



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Exercise

CAA V5 Data Model Customizer : New ENOVIA Application



In this exercise you will customize the Document Schema

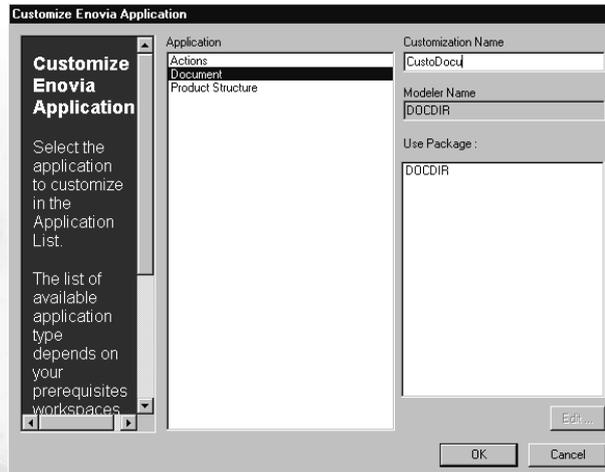
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Do It Yourself: Customize the Document Schema

Customize also the Document Schema.

When you click on 'Finish', a new framework is created, containing a new empty UML model. Rational Rose is started on this new model.



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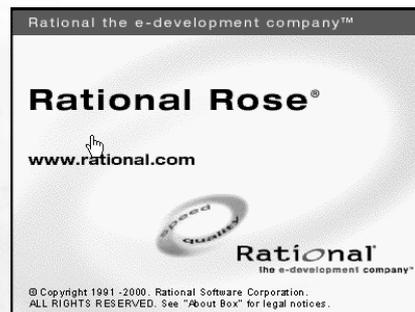
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Exercise

CAA V5 Data Model Customizer : Rational Rose's UML Editor



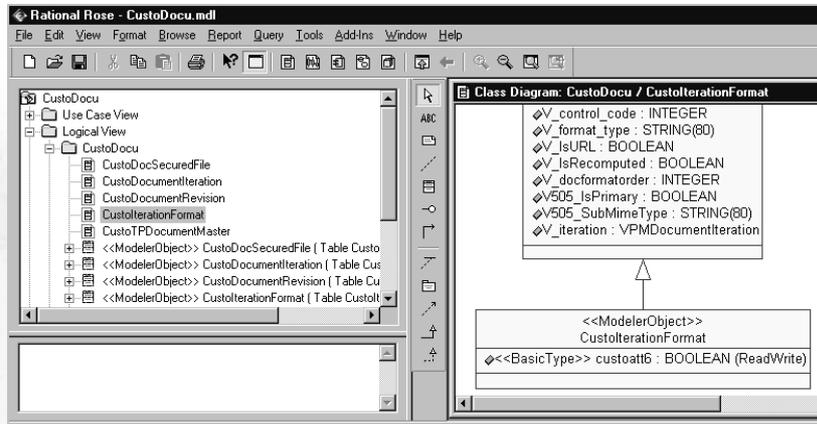
In this exercise you will use the UML Representation for the Document



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Do It Yourself: UML Representation for the Document



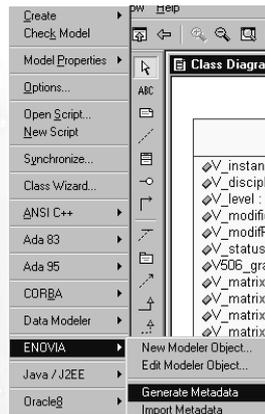
- Repeat the same steps as the Product to get the UML Representation for the Document.
- Be careful, the customized entities must be finished to be called by SecuredFile, DocumentIteration, DocumentRevision, IterationFormat, TPDocumentMaster.

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Do It Yourself: Generate

- To update ENOVIA dictionary with your new application, use the 'Tools/Enovia/Generate' menu.
- You should use this command each time you modify your UML model.
- Then close Rational Rose to go back to Visual Studio.

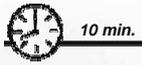


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Exercise

CAA V5 Data Model Customizer : New ENOVIA Application



In this exercise you will customize the Action Schema

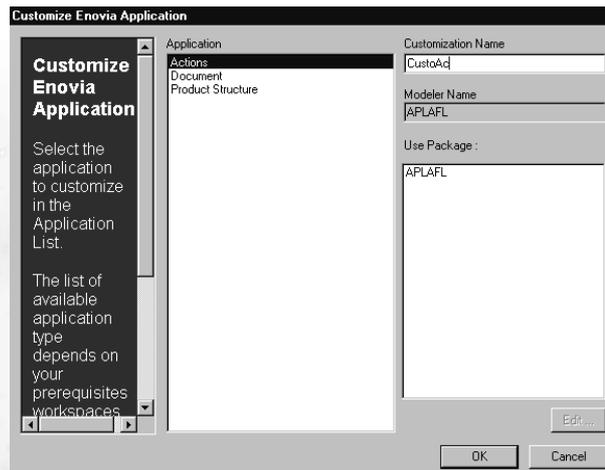
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Do It Yourself: Customize the Action Schema

Customize also the Action Schema

When you click on 'Finish', a new framework is created, containing a new empty UML model. Rational Rose is started on this new model.



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Exercise

CAA V5 Data Model Customizer : Rational Rose's UML Editor



25 min.

In this exercise you will:

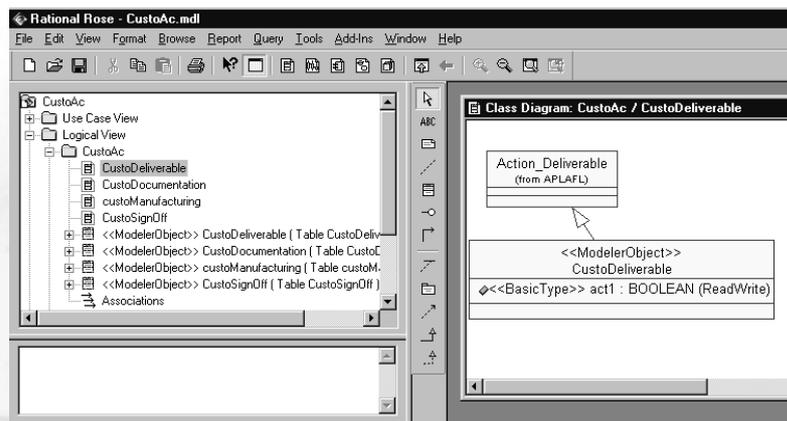
- ◆ Use the UML Representation for the Action
- ◆ Generate



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Do It Yourself: UML Representation for the Action



➤ For the Action customization, customized entities can be named as you want

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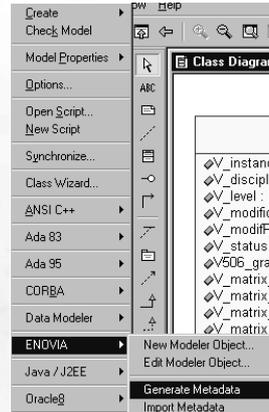
30

Do It Yourself: Generate

➤ To update ENOVIA dictionary with your new application, use the 'Tools/Enovia/Generate' menu.

➤ You should use this command each time you modify your UML model.

➤ Then close Rational Rose to go back to Visual Studio.



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Exercise

CAA V5 Data Model Customizer : UNIX prerequisites



In this exercise you will:

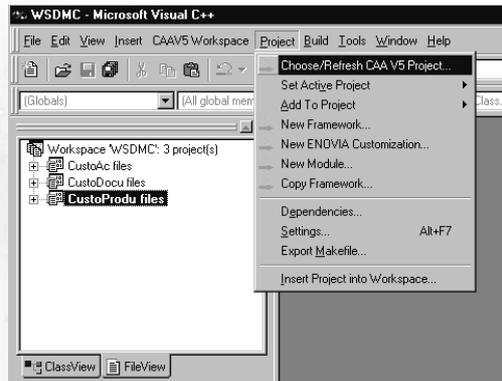
- ◆ Refresh your project
- ◆ Have a look at your metadata and dictionary files generated
- ◆ Locate and Define the UNIX prerequisites

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Do It Yourself: Refresh your project

➤ Refresh your CAA V5 Project



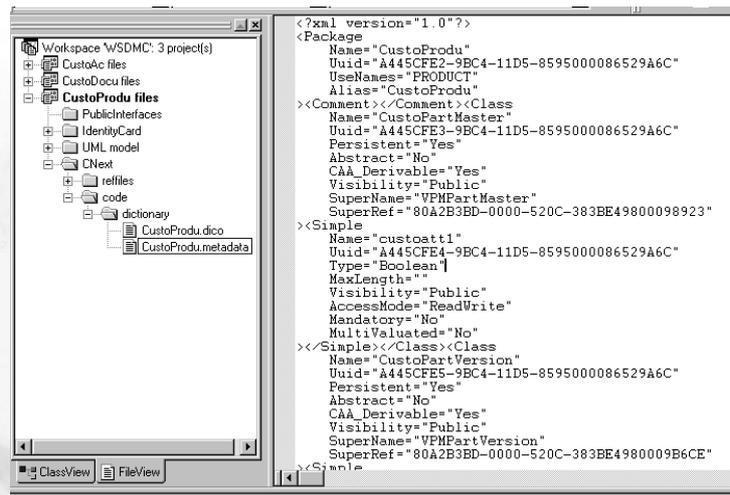
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Do It Yourself: Have a look at your metadata and dictionary files generated

➤ You can browse some of the generated files from Rose:

- Dictionary file
- Metadata file



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Do It Yourself: Locate and Define the Unix prerequisites

➤ In order to compile, you must inform the UNIX prerequisites

Select one of the 3 working modes, and the list of online workspaces where prerequisite frameworks are found.

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Exercise

CAA V5 Data Model Customizer : Publish Shell



20 min.

In this exercise you will :

- ◆ Launch the Publish shell
- ◆ Fill in the Publish parameters for the Product
- ◆ Fill in the Publish parameters for the Document
- ◆ Fill in the Publish parameters for the Action
- ◆ Publish shell at work

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Do It Yourself: Launch the Publish shell



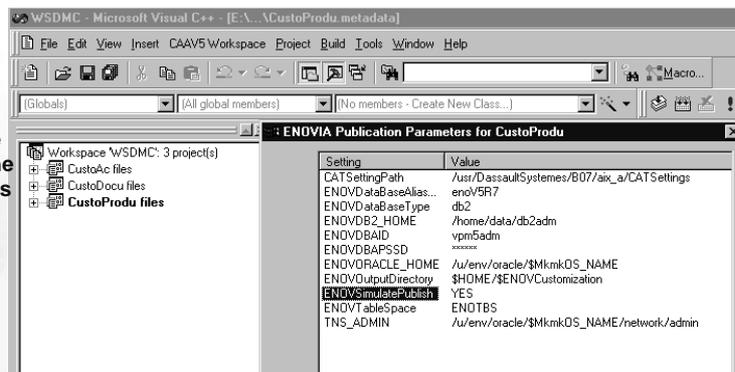
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Do It Yourself: Fill in the Publish parameters of the Product

Fill in the Publish parameters:

- The location of the ENOVIA Settings, the database parameters (type, aliases, tablespaces, ENOVIA Database, Administrator ID, and password...)



➤ The ENOVSimulatePublish Settings makes you in a Simulate mode or not. For instance, if you are just a programmer and not an administrator, you can run the Publish shell in simulation mode, which will just generate the database modification orders, but not run them.

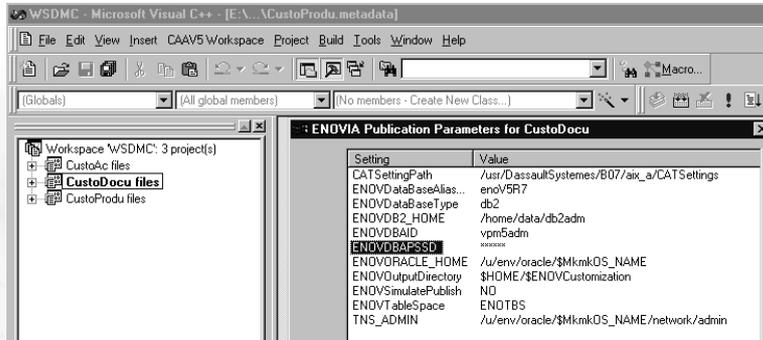
➤ Set as Activated the Custopro Framework

➤ You can launch the Publish Shell in Simulate: Yes

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Do It Yourself: Fill in the Publish parameters of the Document

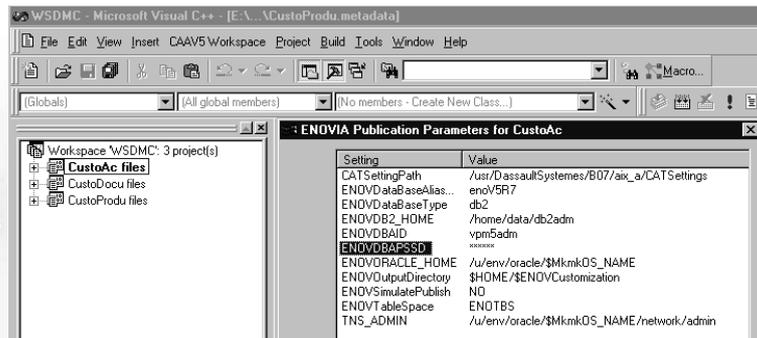


- The Document entities are on the same schema as the Product ones.
- Set as Activated the CustoDocu Framework
- You can launch the Publish Shell in Simulate: NO. The ddl files will be executed. The customized entities will be created in the database for both the Product and the Document

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Do It Yourself: Fill in the Publish parameters of the Action



- The Action schema id different from the product and Document one.
- Set as Activated the CustoAc Framework
- You have to launch the Publish Shell in Simulate: NO. The ddl files will be executed. The customized entities will be created in the database for the Action

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Do It Yourself: Publish shell at work

Publish shell at work:

- It generates the express file from the XML description
- Compiles it
- Generates the DDL orders
- Execute the DDL orders depending on the Simulate mode

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Do It Yourself: Another Process for the DMC

- You could have created three Workspaces for Concurrent Engineering needs:
 - One for the Product customization
 - One for the Document customization
 - One for the Action customization

- In this case, you should have:

Launched the Product Publish shell in Simulate NO.

1. For the Document , you have to prerequisite first the previous product workspace concatenated with the installation. Then launch the Document Publish shell in Simulate No (to take into account the .metadata and the VPAdmin of the Product)
2. For the Action, you have to prerequisite first the document workspace concatenated with the installation. Then launch the Action Publish shell in Simulate No (to take into account the VPAdmin of the Document)

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Do It Yourself: .off files

RADE generate .off files which corresponds of the state of the database before customization. These files are used to generate the update ddl files.

When you finish a first customization, all the ddl files are copied as .off files

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Exercise

CAA V5 Data Model Customizer : Check the results inside ENOVIA LCA



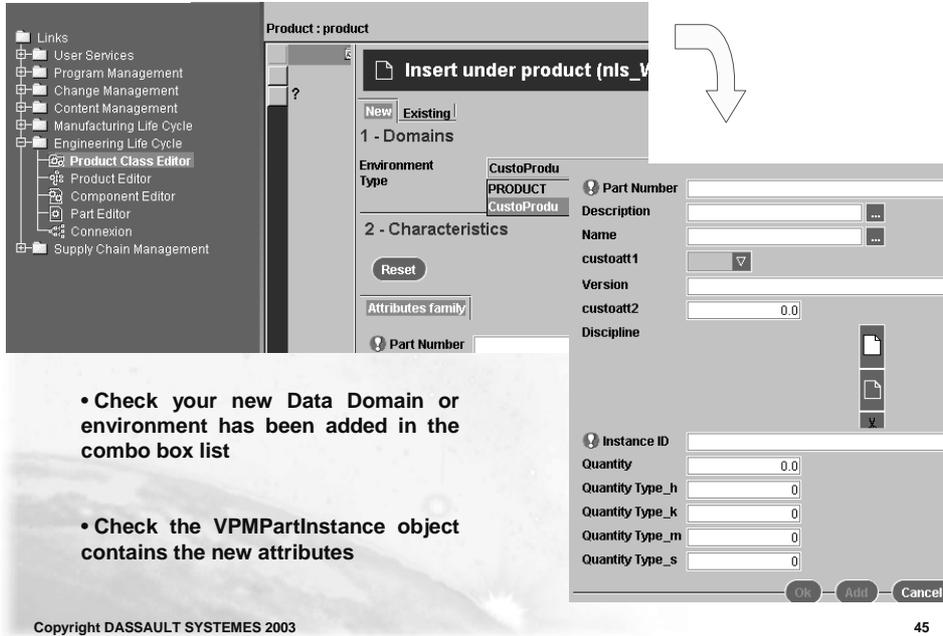
In this exercise you will check the results :

- ◆ Inside the Product Editor
- ◆ Inside the Search CATlet
- ◆ Inside the Content Management
- ◆ Inside the Change Management

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Do It Yourself: Inside the Product Editor

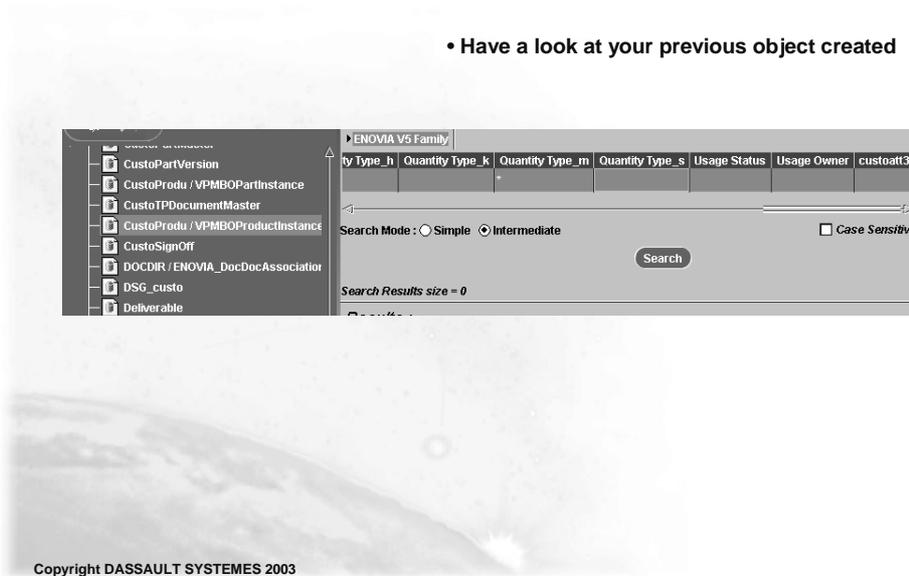


The screenshot shows the 'Product : product' editor. On the left is a tree view with 'Product Class Editor' selected. The main area shows 'Insert under product (nls_V' dialog with 'New' and 'Existing' tabs. Below are sections for '1 - Domains' and '2 - Characteristics'. A detailed form on the right includes fields for 'Part Number', 'Description', 'Name', 'Version', 'Discipline', and 'Instance ID', along with quantity fields for 'Quantity Type_h', 'Quantity Type_k', 'Quantity Type_m', and 'Quantity Type_s'. Buttons for 'OK', 'Add', and 'Cancel' are at the bottom.

- Check your new Data Domain or environment has been added in the combo box list
- Check the VPMPartInstance object contains the new attributes

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Do It Yourself: Inside the Search CATIet



The screenshot shows the Search CATIet interface. On the left is a tree view with 'CustoPartVersion' selected. The main area shows a search results table for 'ENOVIA V5 Family'. The table has columns for 'Quantity Type_h', 'Quantity Type_k', 'Quantity Type_m', 'Quantity Type_s', 'Usage Status', 'Usage Owner', and 'custoatt3'. Below the table are search mode options: 'Simple' (selected) and 'Intermediate', and a 'Search' button. The text 'Search Results size = 0' is displayed.

- Have a look at your previous object created

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Do It Yourself: Inside the Content Management

New ENOVIA Object

Environment Type: DOCDIR, DOCDIR, CustoDocu, TEMPLAT, STDPART

Environment Type: CustoDocu

Environment Type: CustoDocumentRevision

Instance Security: Unsecured

Document ID: []

Description: []

Keywords: []

Name: []

File Location: On Local Machine, On Server, In Catia

- Check your new Data Domain or environment has been added in the combo box list

- Check the CustoDocumentRevision object contains the new attributes

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Do It Yourself: Inside the Change Management

Actions tree: Actions

Properties of (unsaved)

Action Type: custoManufacturing

Attributes family: custoManufacturing, Maintenance, Design, DSG_custo, SignOff, CustoSignOff, Manufacturing, CustoDocumentation

ACTION ID: []

Description: []

Abstract: []

Priority: Low

Planned Start Date: []

Actual Start Date: []

Planned End Date: []

Delinquency Interval: 0

Duration: 1

act3: []

- Check your new Data Domain or environment has been added in the combo box list

- Check the CustoManufacturing object contains the new attributes

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