icw
eHEALTH FRAMEWORK

eHealth Framework

How to create a domain object model

Imprint

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Notice

The wording in this document applies equally to women and men. The masculine form was selected to ease the comprehensibility and legibility of the text.

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Note:

The current version of this document has a draft status and various chapters are still in review.

The document is collaboratively built with the use of the Darwin-Information-Typing-Architecture (DITA) and has therefore a draft status concerning styles and layout. The necessary adaptations are currently also in a developmental stage.

Contents

1 Overview

The Maven genapp plugin already created a default *model.uml* file in the `src/main/model` folder of the module. This file contains all the model information required by the generator. To create a new domain-object-model, the first step is to create a diagram with Topcased, based on the *model.uml* file. The domain-object-model can be edited directly by using the diagram, as the model will automatically be updated by saving changes in the diagram.

2 Tasks

2.1 Create a class diagram

1. Select *Window*|*Open Perspective*|*Other...* and then select *Topcased Modeling* .
   The Topcased Modeling perspective will open.
2. Navigate to the `src/main/model` folder of the project, from within the Navigator (not the Topcased Navigator).
3. Right click on the *model.uml* file and select *New*|*UML Model with TOPCASED* .
   If *UML Model with TOPCASED* does not appear as an option, simply select `New|Other...` and select *UML Model with TOPCASED* from within the *Topcased folder* .

   The *New UML model with TOPCASED* dialog window appears.
4. Select *Create from an existing Model* and make sure the *model.uml* file is selected in the *Model* field. Then select *Class Diagramm* from the *Root Diagram* drop down box and deselect the option *Initialize the diagram with existing model objects* .
5. Click *Finish* .

A new blank diagram will be displayed and saved as *model.umldi* in the `src/main/model` folder.

2.2 Create packages

1. Select the *Outline* view and expand the *Model* folder.
2. Right click on the *Class Diagram No name* diagram file and the *com.icw.ehf.<modulename>.domain* package (where *modulename* is the name of the current module) and select *Delete from model*.
   The *com.icw.ehf.<modulename>.domain* package contains the class *Example*, which will be deleted with the package.
3. Right click on the *com* package and select *Create child*|*Packaged Element*|*Package* from the drop down menu that appears.
   An empty package element will appear in the *com* package.
4. Select the new package in the *Outline* view, then change to the *Properties* view and enter a name for the package.
5. Repeat the previous two steps to create a package structure similar to *com.icw.ehf.<modulename>.domain*

2.3 Add class diagram

1. Right click on the new *domain* package from the *Outline* view and select *Add diagram*|*Class Diagram*.
   This class diagram will help to modify the module (e.g. create new classes) as the changes are automatically saved in the new package.

   The diagram will then automatically be opened and shown in the main window with the title *package domain*.

2. Click on the new *Class Diagram unnamed* file in the *Outline* view and change its name (to the modules name) in the properties window .
3. Change to the main modeling window and click the *Class* button from within the *Objects* folder. Then click (anywhere) in the diagram.
   A new class is created.
4. Enter a name for the new class.
   The name of the class should automatically be highlighted in the diagram to edit it. Alternatively right click on the class in the diagram and select *Rename*, or select the class in the diagram and edit the name in the *Properties* window.

2.4 Apply stereotypes to a class

1. Right click on the new class from within the Outline view, and select *Apply Stereotype* from the drop down menu that appears.
   The window *Choose the stereotypes to apply* appears.
2. Select *eHF Profile::ehf-domainobject* in the left hand window and click *Add* .
3. Click *OK* to apply the stereotype to the class.
   The class in the *Outline* view may not appear to be updated immediately. Save the model diagram to have the change visible in the *Outline* view.

   The change will be shown in the model diagram.

Having the stereotype *ehf-domainobject* applied to the newly created classes, the generator now knows that it needs to do something with the objects during the generator run. The eHF Profile defines those stereotypes to identify model elements of interest for the eHF Generator.

2.5 Add attributes to a class

1. Click the *Property* button from within the *Objects* folder in the main modeling window and move the mouse over the class in which the atttribute should be added, then click on it.
2. Modify the name of the property.
3. Click on the new attribute in the class diagram to have its properties displayed in the *Properties* window. Then set the *Visibility* to *private* and uncheck the *is-Unique* checkbox.
4. Set the *Type* of the attribute to <*Class*> *String* from within the Properties window.
5. Click the *Type selection* button to open the *Object selection* dialog and select <*Class*> *String* from the list, then click *OK*.

Repeat the previous steps to add more attributes to the class.

2.6 Create associations between classes

1. Click the *Association* button from within the main modeling window and move the mouse pointer over the first class in the diagram and click on it.
2. Move the mouse over the second class and click on it.
   An association between those classes is created.

3. Click on the new association in the diagram to have its properties displayed in the *Properties* window.
4. Select the section *First End* and set the properties, then select the section *Second End* and set the properties.
5. Select the section *Model* and delete the name entry.
   It will be given a default name of *A_firstClass_secondClass* .

2.7 Add CRUD services to a class

1. Select the class to be modified in the diagram, to have its properties shown in the *Properties* window.
2. Click on the section *Stereotype Attributes* from within the *Properties* window on the left hand side.
3. Click on the value of the *Crud* property to change it. Then select *true* .

Having the *ehf-domainobject* stereotype's attribute *crud* set to *true* a *CRUD* service implementation will be provided for the domain object by the generator.